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Issue 409
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+

ST VINCENT talks analogue synths and self-producing

The beautiful simplicity of the 303 with **JEFF MILLS**

LUKE SLATER on aliases, experimentation and processing the perfect techno kick

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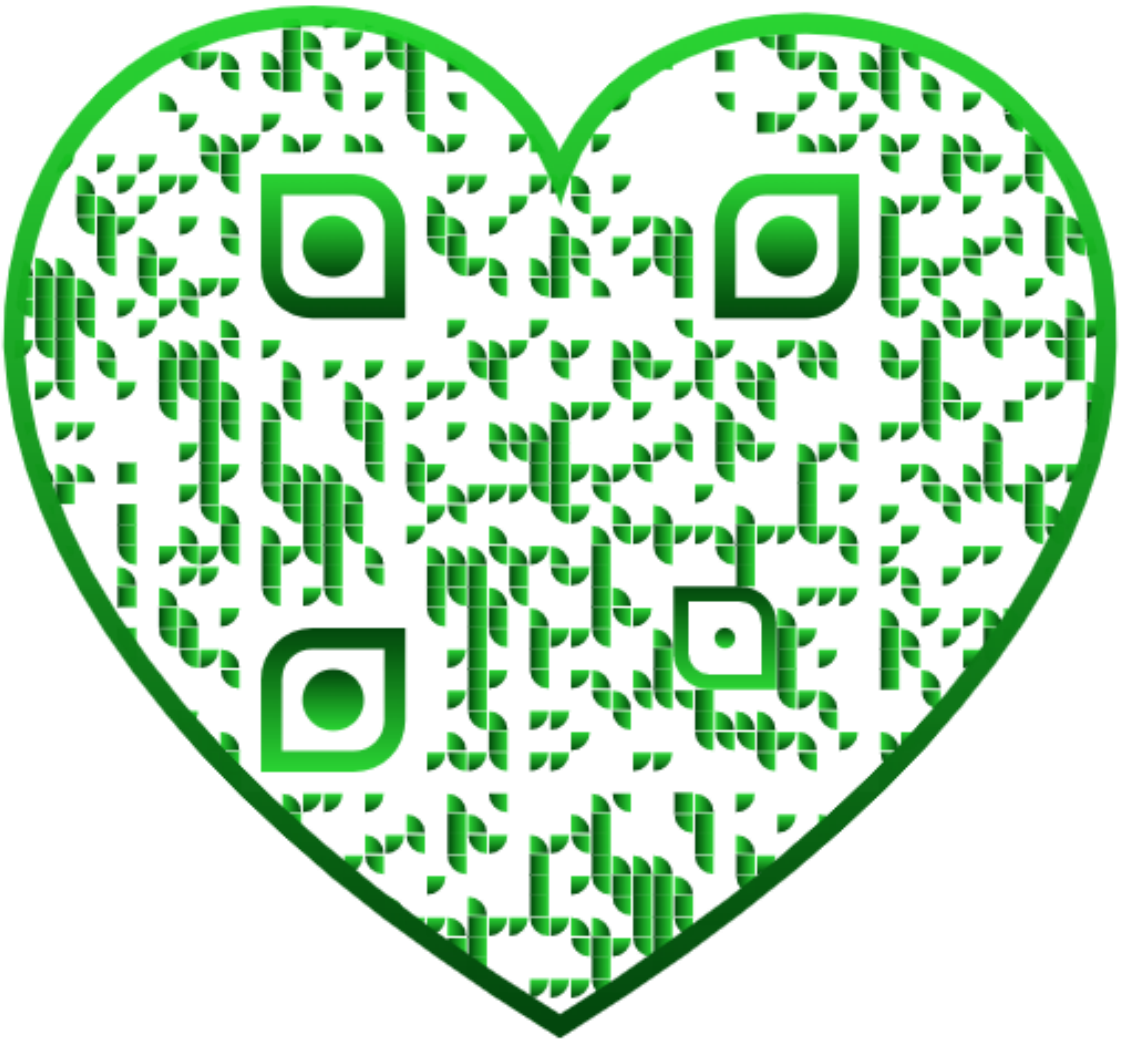

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Printed in the UK by: Buxton Press on behalf of Future
Distributed in the UK by: Marketforce (UK), 2nd Floor, 5 Churchill Place, Canary Wharf, London, E14 5HU **Tel:** +44 (0) 203 787 9001

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SUBSCRIPTIONS
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Future Music, ISSN 0967-0378, is published monthly with an extra issue in December by Future Publishing, Quay House, The Ambury, Bath, BA1 1UA, UK
The US annual subscription price is $197.60. Airfreight and mailing in the USA by agent named World Container Inc, c/o BBT, 150-15 183rd St, Jamaica, NY 11413, USA. Application to Mail at Periodicals Postage Prices is Pending at Brooklyn NY 11256.
US POSTMASTER: Send address changes to *Future Music*, World Container Inc, c/o BBT, 150-15 183rd St, Jamaica, NY 11413, USA
Subscription records are maintained at Future Publishing, c/o Air Business Subscriptions, Rockwood House, Perrymount Road, Haywards Heath, West Sussex, RH16 3DH, UK

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Work and play

Even when you do it professionally, making music should ideally be fun. It's something that we do with passion and enthusiasm. It's about creativity and inspiration.

Modern studios can be fantastic at facilitating this. With little more than a laptop and a set of monitors, it's possible to access all the tools you need to make music in any style to a professional standard. But even such a simple setup also has the capacity to get in the way of your creativity. Electronic production gear comes with a lot of potentially workflow-breaking admin, from the need to keep your software and hardware updated, to issues with sync, patching and communication.

This issue's cover feature is all about clearing away those potential blockages and helping you to bring the fun back to your studio setup.

We hope you enjoy this issue of FM...

Si Truss, Editor-In-Chief
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St. Vincent

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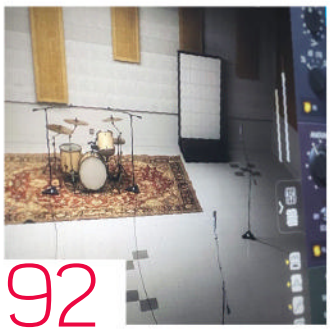

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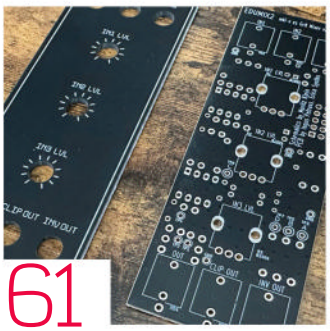

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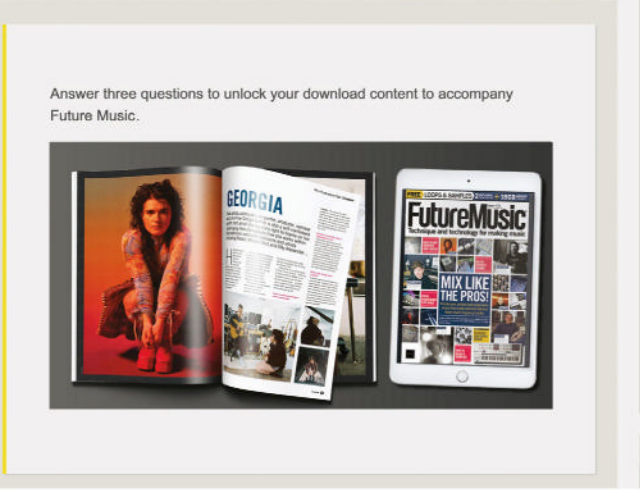

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IN THE STUDIO...

Luke Slater

INCLUDES VIDEO

The UK techno star, currently working under the L.B. Dub Corp alias, shows us around his studio

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DRUM HITS

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- Rims 'n' Things (549 samples)
- Resonator Percussion (502 samples)
- Hats, Cymbals & Gongs (280 samples)

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Supercharge your studio workflow

Ever had a musical idea that got lost to the ether while lost in delivery? These tips are for you

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Tracktion adds clip launching and Wavetable Synth to Waveform Pro 13 update

"Say hello to a new, inspiring workflow"

Over recent updates, Tracktion Waveform Pro has become the DAW you didn't know you should be using, but its latest version could seal the deal, with familiar clip launching and a new wavetable synth promising to increase its user base.

Waveform is a Mac, PC, and Linux DAW with one of the best free versions around, but the latest update looks like being its most significant, with Ableton-style clip launching being the new 'must-have' feature which an increasing number of DAWs boast. Ableton might have started the clip-launch party, but other big names like Logic Pro and Bitwig Studio have crashed it.

The Waveform Pro 13 version, then, could be seen as an obvious update, but something about its integration with the arranger window makes it look somewhat neater in our book. If we were to maintain that 'party' analogy, then, it's like the cooler kid has arrived late, but they are dressed in killer slacks, and everyone at the party is going 'wow'.

Waveform Pro 13's take on clip launching lets you record and edit MIDI and audio clips on a grid and use a number of different sequencer actions to play and perform with them. You can choose to pre-arrange these actions and set probability levels so move towards more random events if you wish.

The Ableton-style clip launcher has become a must-have feature these days

As with other DAWs, all of your live performances can be recorded – in this case using Performance Recording – and edited in an arranger window after the event, which, you could argue, seems more handily placed than in most DAWs.

To go with the new clip launching features, Tracktion has announced support for Ableton Link and a range of MIDI controllers from Novation and Akai.

The other big update to Waveform Pro is a wavetable synth called, handily, Wavetable – again… Ableton anyone? – which has two wavetable oscillators, and a sub and noise oscillator. There are 150 included wavetables and the option to import your own WAVs and Serum wavetables. The synth has five effect slots that can be re-ordered and also includes plenty of modulation features. FM

Waveform Pro's Wavetable synth features 150 wavetables, five effect slots and plenty of modulation features

Akai officially unveils audio extraction technology, MPC Stems

Announced earlier this year, Akai Pro's MPC Stems technology – which enables producers to separate the bass, drum, vocal and other musical elements in mixed audio – has now arrived in the company's MPC Desktop Software.

Said to usher in "a new era of sampling, enhancing creativity and precision for music producers and beatmakers," and to represent "a monumental leap forward in sampling technology for producer communities around the world," this is powered by zPlane's stem separation engine, which Akai Pro claims delivers "superior sound quality" and minimal artefacts.

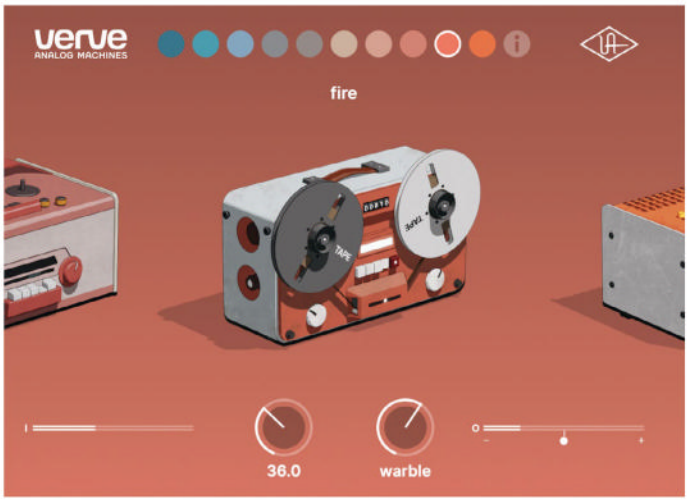
Once separated, stems can be assigned to pads within the MPC software, and you can assign sample slices to different pads and isolate specific parts of the original track.

The workflow is easy, too: simply select the Create Stems option and you can choose which of the layers you want to extract. The volume, pitch and pan levels for each stem can be adjusted individually or across all four layers, and your audio can be cropped on an individual or global basis, too.

As we mentioned, MPC Stems currently only works in the desktop version of the MPC Software, but is fully supported when you use your MPC Live Series in controller mode. If you want to use your stems in standalone mode, you'll have to create them in the desktop software and then open the project you saved them in on your standalone hardware. There's no word yet on if or when full standalone support will arrive.

Sadly, the MPC Stems update isn't free for existing MPC Software users, but the one-off payment charge of $10 certainly doesn't seem unreasonable. This is available exclusively through the MPC Store, and requires users to have installed the 2.14 software/firmware update.

Universal Audio launches Verve Analog Machines saturation effects



Universal Audio has announced two new plugins that each have a number of retro saturation effects – or Machines – included. Verve Analog Machines is the headliner, with Verve Analog Machines Essentials the support act.

With Verve Analog Machines you get 10 'Machines'; saturation effects of various colours that give creators everything from "subtle tape warmth and hi-fi tube saturation to full-on distorted textures and more". It costs $199.

The cut-down Verve Analog Machines Essentials includes four Machines but is just $99.

The fuller Verve Analog Machines features controls like Drive, Tone, and Tape Warble. The Machines are all analogue in nature (although obviously digital in delivery), all utilising the same kind of component level modelling employed in the rest of UA's plugins.

The 10 Machine effects are Sweeten (reel-to-reel tape machine), Edge (analogue console), Glow (harmonics via a tube preamp or channel strip), Warm (older tape machine), Thicken (lo-fi tape), Vintagize (old tape), Distort (driving analogue preamp), Overdrive (fuzzy tape tone), Fire (searing analogue tape), and finally, Sputter (broken distortion).

Verve Analog Machines Essentials is all of the above, but with just four machines, and has just the Drive control included (so no Tone or Warble).

"We really want people to get creative with true-to-life analogue tones," says Ryan Wardell, Universal Audio's Director of Software. "Verve Analog Machines gives music producers and beatmakers a sleek, fun collection of machines to experiment with everything from gentle warmth to sonic obliteration."

Neve announces the "world's first genuine" 1073 interface

Neve's new 1073SPX-D combines its legendary 1073 preamp with modern-day digital interfacing technology, so you can get that classic Neve sound on all your DAW recordings. You may ask why the company hasn't done this before? Well, the Neve 1073 is one of those pieces of studio gear that gets mentioned in hushed tones along with names like Pultec, Fairchild, the Space Echo and 1176.

The preamp and EQ was originally developed by Rupert Neve back in 1970 and installed in a recording console at Wessex Sound Studios. That console was first used by King Crimson and later by acts including Queen and the Sex Pistols and its sound and reputation quickly spread, largely down to the character imparted by its 1073 preamps.

That sound comes when the transformers in the 1073 are pushed – but not too hard – into saturation, adding a wonderful controllable colour that delivers both punchy mid and warm low frequencies. The preamp became so in demand that AMS Neve has continued to produce a classic version of the 1073 to this day.

However, the new 1073SPX-D is the first official Neve 1073 interface. It features a full 1073 channel strip front end with a three-band EQ, and combines it with USB and ADAT digital connections, all in a 1U, 19-inch rack unit.

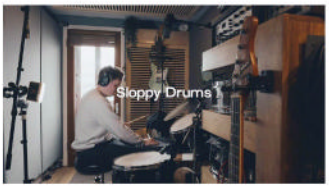
The 1073SPX-D is effectively a nine input (one analogue, eight ADAT) and 12 output (four analogue, eight ADAT) interface. It can be used as a hardware insert in your DAW, so any track can be routed through the interface's analogue circuitry and benefit from that 1073 charm.

There's obviously some decent analogue to digital technology required, so Neve has packed in "pristine" 192kHz and 24-bit AD/DA conversion. The interface is said to be plug-and-play for both Mac and PC users and also features balanced inserts, metering, a high-powered headphone amp, and an output fader.

The Neve 1073SPX-D will cost £2,295.

Song Athletics drops Sloppy Drums sample pack inspired by J Dilla and Madlib

Song Athletics is a new(ish) company launched by former Spitfire Audio CEO Will Evans. Late last year, it launched with Some Drums, a sample pack featuring drum loops recorded by drummer Marc Pell on a '60s Ludwig kit.



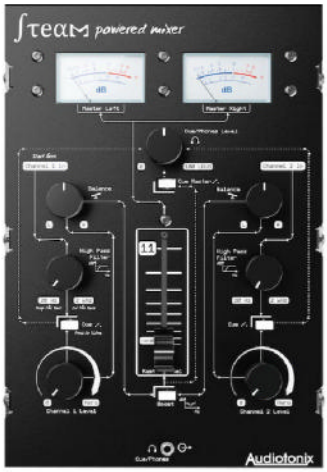
This week, Song Athletics returns with another drum-focused sample pack, Sloppy Drums. Inspired by the laid-back, off-beat stylings of J Dilla, Madlib, Flying Lotus and Thundercat, the pack is said to capture the sound of "studio drums that will give your music a lazy complexity".

Performed and recorded by drummer Chris Boot, known for his work alongside Lone, Daughter and Georgia Anne Muldrow, Sloppy Drums features a Rogers USA '72 Fullerton kit. The drum patterns found in the pack are loose and lazy, hanging behind the beat to create a heavily swung and rhythmical flavour.

At £25, the pack comprises 40 loops, 30 stems and 60 one-shots, all royalty-free and ready to use.

Audiotonix releases a build-it-yourself DJ mixer to encourage a new generation of sound engineers

DIY music-making hardware is having a bit of a 'moment' right now. Korg, of course, is a big endorsee of the DIY process, 'allowing you' to build several products such as the Nu:Tekt NTS-1 Digital synth. And numerous boutique synth and modular brands sell kit-versions of their products that offload the assembly process onto the user. Audiotonix is the latest company to not bother building its own gear, but with very good intentions.



The company, which also services a number of other audio brands including Allen & Heath, Harrison and Sound Devices, has developed the new Steam powered DJ mixer kit, to address what it sees as distinct lack of new engineering talent coming into the audio industry. Audiotonix sees its new DJ kit as a step to combat this shortage of expertise, as its CEO James Gordon explains.

"It's our collective responsibility to help develop the next generation of engineers, starting whilst they are at school. To build more interest in engineering and help develop these core STEM skills, we have created a kit-based, USB-powered, two-channel DJ audio mixer that students can build and assemble themselves or as a team".

The idea is for the company to offer the mixer at a discount for youth groups and charities and then reinvest any cash made into more kits.

While that all sounds very worthy, we should mention the actual mixer. Its construction requires some soldering – unlike some other DIY gear – so there are detailed instructions, including videos, to help you put the three printed circuit boards together, each of which has holes that components need to be soldered into.

Audiotonix says of the process, "students will gain an understanding of how the different technical elements work together, and create a product they can use to develop their creative skills."

The Steam DJ kit sells for £299.95 plus local tax, and you can register to participate in the scheme – where the discounts are presumably arranged – through the Audiotonix website.

"All schools, youth groups and charities can register their interest," says Audiotonix on potential applicants, "and we will be in contact in the coming weeks with how we can help."

Auto-Tune Pro can now do four-part harmonies in real-time

Maligned by some but an indispensable tool for many, Auto-Tune is one of the defining plugins of the 21st century. Now Antares has updated its flagship vocal tuning software, Auto-Tune Pro, bringing a host of new features and improvements to the popular vocal production tool.

The new version of Auto-Tune Pro is equipped with a Harmony Player which lets you layer up to four notes of tuned vocal at a time. Harmonies can be triggered via MIDI in real-time, opening a vast range of performance possibilities.

Each part can be individually adjusted by means of controls for pan, level and formant, while the master mix can be shaped with use of controls for EQ, envelope, gate and width.

The software's Graph Mode, which allows users to make precise adjustments to individual notes and phrases within a vocal, has been enhanced with a streamlined workflow and new navigation features, while both Graph Mode and Auto Mode have been the recipients of a makeover featuring a refreshed user interface.

These features build on the enhancements of Auto-Tune Pro X, which also added the Multi-View mode for quick switching between multiple tracks within a project.

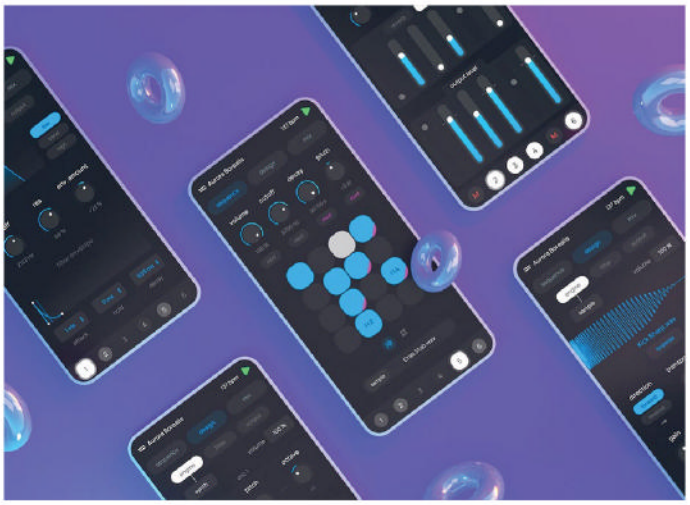
Auto-Tune Pro 11 also boasts improved MIDI mapping, making it easier than ever to control the software using hardware controllers.

Auto-Tune Pro 11 is included with a subscription to Auto-Tune Unlimited for $24.99/mo or $174.99/year, or can be purchased as a perpetual licence for $459. If you'd like to try it out, you can access a free 14-day trial. **FM**

Former V Collection developer releases Polaris for Android

The Android music-making app scene is certainly in a healthier state than it once was, but it's still relatively rare to see a new beatmaking tool being made exclusively for Google's mobile OS. Meteaure's Polaris, then, is a very welcome addition to the Play Store, particularly as it seems ideal for making music in bursts on your phone or tablet.

This is the work of Arturia veteran Baptiste Le Goff, who previously worked on the V Collection titles both as a software engineer and product manager. Luckily for us, he's also a bit of an Android expert.



As Le Goff explains, "My hope is that Polaris will create new opportunities for people willing to use their phones as music-making devices, matching the philosophy of the growing DAW-less setup trend."

It's in this spirit that Polaris has both sample and synth engines and offers a groovebox-style workflow across six tracks. The 4x4 grid on each of the tracks enables you to input steps into the sequencer, and step modulation gives you an easy way of adding variation to your patterns. It's also possible to adjust the step duration on a per-track basis (from 1/32 to one bar) and then set the triggering conditions, meaning that each step doesn't sound every time.

Each track's sample or synth engine can be tweaked on the Design page, where you'll also find a filter with its own envelope, and an output section with distortion. There's a dedicated Mix page, too, with reverb and delay sends and output level controls. You can mute tracks here, too, though there's no option to solo them at the moment as far as we can tell.

A collection of samples comes included with Polaris and you can also import your own. You can't record directly into the app, though; if you want a groovebox-style workflow with that facility, take a look at Koala.

The clean and concise GUI and feature set is very appealing, though, and the fact that Polaris is step-based means that you don't have to worry about any latency issues when you're jamming. Yes, there are more 'complete' Android music-making apps available, but this is definitely one to have if you like the idea of creating loops at pace – either for use elsewhere (an audio export button would be nice to make this easy) or just for the fun of it.

Polaris is available now from the Google Play store for just $4. **FM**

Generate new musical ideas in Ableton Live

Live 12's Generative and Transformation MIDI Tools in action

Ableton Live 12's new Generative and Transformation MIDI Tools (available in Standard and Suite editions) are a great way to add musical parts that we might not come up with on our own. They apply to MIDI notes only, and are divided into two distinct categories – generative (where entirely new notes are created) and transformative (where existing MIDI notes inside a clip are rearranged in various ways). These aren't fully 'generative' in the sense of creating continuously evolving patterns, but they are very good for creating musical parts to use in compositions, and, if you really want something non-repeating for a song, you could try applying them to very long MIDI clips. As we see the growing use of AI, we have to ask 'is this cheating?', and the answer is 'no more than using any other feature of a DAW is cheating'. They're tools that we manipulate to get what we want; they're not in control of us, and we really enjoy using them. Follow our walkthrough as we create a beat and a bass part using these tools. We recommend working at slower BPMs while you get familiar with the process, things can sound chaotic quite quickly.

ABOUT THE AUTHOR

Martin Delaney was one of the UK's first Ableton Certified Trainers. He still teaches Live, and is currently playing bass for, and producing, The Witch Of Brussels **thewitchofbrussels.co.uk**

01

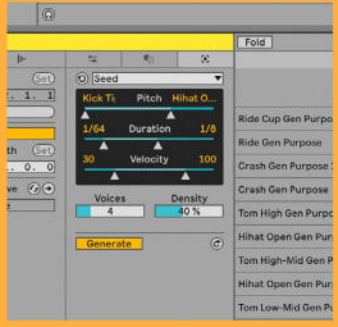
Let's start with a beat

Of course in reality you can combine programmed and generated parts, but let's commit fully. Open Live 12, and load a drum kit, we're using the Gen Purpose Kit. Double-click in the top empty clip slot in the same track, making a one-bar MIDI clip.

02

From the clip editor's Generative Tools tab, choose 'Seed'

Below that you can specify note range, note lengths, and velocities, number of voices, and density (amount of notes). If the Generate button is yellow, your changes happen instantly. If not, they'll change once clicked.



03

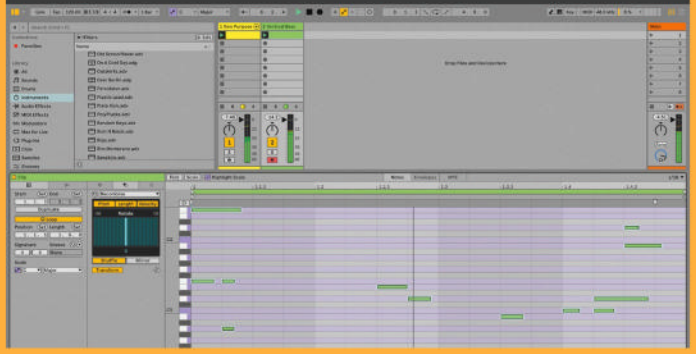
Now you'll see notes appear in the clip

If you don't like the result, re-apply Generate, in order to spawn new notes, or move the controls and watch the notes update. Tip for generated beats: move the clip start marker around to make the beat start where it sounds good to you.

04

Load a bass sound into another track

Try the Meld Vertical Bass preset. We'll generate again. This time when you select Seed, adjust the Pitch, Duration, and Velocity controls as well. From the Transformation Tools tab at the left of Generative Tools, select Recombine, and click the Shuffle button.



TALKING SHOP

Kartell

The French electronic producer and DJ discusses his '70s rock-inspired new album

Spending the 2010s at the heart of the Parisian electronic music scene, French producer and DJ Kartell channelled influences from soul, disco and R&B into slick and sultry beats that sparkled with the mirror-ball glitter of '90s French touch. In 2021, Kartell escaped the big city to relocate to his birthplace of Tours, building a new basement studio and setting to work on producing his most personal project yet.

That project is *Everything Is Here*, a 15-track statement that expands his already diverse sound in new directions, taking cues from everything from '70s soft rock to alternative hip-hop. With more of a live and instrumental feel than his earlier work, the project invites a varied cast of collaborators, including Tkay Maidza, Barney Bones and Kurtis Wells to furnish Kartell's polished, funk-laden productions with pop hooks and extra personality.

We caught up with Kartell ahead of the release of *Everything Is Here* to find out more about how the album was made, and he was kind enough to leave us with three production tips for good measure.

© Dimitri Lanctuit

When did you start making music, and how did you first get started?

"I started making music around 15 years old when I got my first computer in my bedroom. It was a small Compaq and I started to play around with Fruity Loops and soon after that, Reason. The first beats were sampling cinematic sounds with hip-hop beats. I was very into abstract hip-hop at the time, guys like DJ Premier and DJ Shadow. When I switched to Reason that's really where I started to make full compositions, mainly electronic, house and disco, which I couldn't really figure out how to make on FL Studio. The stock library of synth and samples from Reason were really all I needed at the time."

Tell us about your studio/set-up.

"I moved out of Paris three years ago and bought a house in Tours, which had a basement that I adapted into a home studio. The family before were using that room as a home cinema, but the acoustics were terrible. There was a floor tile that I replaced with a floating parquet and some homemade acoustic panels. I did everything on my own and it was a fun experience.

"The other focus when I moved in was to get a warm light ambience since there is no natural lighting. I want to be inspired when I lock myself down there for seven hours straight. Some vintage 1970s furniture and lamps warmed up the place nicely.

"I was only using plugins before settling in there, but it turns out I moved in at the same time I was getting a new small publishing deal which allowed me to buy my first bits of hardware: a Prophet Rev2 and a Behringer Poly D. For such a low price, the sound and capabilities of the Poly D still surprise me and it's probably the piece of gear I use the most now for bass and leads.

"I also got a TASCAM Portastudio 414 which is nice to use and has some great textures and a naturally pitched down analogue sound. My day-to-day process, though, is still really all about plugins."

What DAW (or DAWs) do you use, and why did you choose it?

"I use Ableton Live 10, it's a perfect balance for me as you get through sounds quickly when you are having a moment of inspiration, and the workflow for in-depth mixing and arrangements is also very natural."

What one piece of gear in your studio could you not do without, and why?

"It's actually software rather than a piece of gear. It's called SoundID Reference and I use it to balance my Focal speakers and my headphones. I got so used to this that I can't make any music if this is not turned on. Since no room is acoustically 100% perfect, even with treatment, this software runs on top of your soundcard and actually balances your speakers according to the room and to its specs. It has drastically improved my mixes."

What's the latest addition to your studio?

"I bought an Akai 4000DS MK2 tape recorder to run my mixes through it and it's an absolute pleasure to hear your mixes coming to life with a subtle wobble and physical interaction of the sound."

What dream bit of gear would you love to have in your studio?

"I want to get a drum kit. Before making music, I played drums in a jazz school for a few months and this is something I really loved. I stopped after a while because I was frustrated that I couldn't get a set at home and experiment more. I'm glad I have my own space now, and this is

probably my next addition to the studio.

"I'm building up a shopping list at the moment, looking at various references. I want to get a Ludwig Acrolite snare, which seems to be very versatile and warm for the sound I'm looking for. I have some amazing drum loops packs from Jeremy Pages and Jack Reed which I'm using a lot, and the sound they have is a reference to me."

When approaching a new track or project, where do you start?

"Chords and harmonies. Even if I have only one nice chord or one note running ambience, I will try to harmonise it with bass and other elements very quickly. I found myself having the most emotional results doing this and my album has a few tracks that started this way – *Space Odyssey*, for instance.

"I don't actually know anything about chord theory and I can't play the piano. I do everything by ear and feelings, and this technique has helped me a lot to get a good starting point."

Tell us about how you approached the production on your new project.

"I had a clear image of the album sound and universe as soon as I got something like the first two tracks wrapped up. Mixing the theme of space exploration and the tribute to '70s psych rock with my influences of R&B and electronic music was quite challenging.

"Since I wanted a very visual and cinematic approach to the music, I started quite early to gather a moodboard of images with a warm psychedelic '70s approach that gave a direction and a meaning for the music and the sound design. I needed a clear direction very early on, since I'm very eclectic in my tastes and in my productions. With that aesthetic in mind I started writing the tracks almost entirely with plugins, Rickenbacker VST for bass, Repro-5, Triton and Clavinet for keyboard and synth, Farfisa and Solina for leads and pads, some Poly D for synth bass.

"I used a lot of the Arturia Analog Lab suite, which brilliantly captures the vintage sound I was looking for. To give some character, room and unique textures to each track, I used a lot of plugins from Soundtoys, and also of the VHS degradation suite for Reaktor. I played some live guitars and bass also using amps and pedals from Waves GTR Tool Rack.

"For this project, I knew that the fundamentals of the tracks – the bass and drums – needed to be played live. Once I got proper structures and some references, I sent the stems to Max Baby, who is an amazing musician, and he recorded live takes for the bass and the drums. He also played some keys and guitar and developed some ideas when needed, adding some arrangements and much-needed life to the project. Once I got his parts, which immediately pushed further the production, I spent a lot of time experimenting with his layers and effects to glue it naturally into my vision.

"Then I did a premix for all the tracks, trying to push them as far as I could and have them sound sonically coherent together. I view the mixing part as essential as the composition, and I try to get the right sound as soon as possible in my process. Once I got nice reference mixes, I sent everything to Greasy studios in Paris. Marcus, whom I have worked with before on my latest EP, *Daybreak*, really knows my sound and what I like, it was very natural for him. He has an amazing collection of analogue gear, compressors and EQs. All the mix and masters went through analogue gear, which gives the crispness I was looking for."

> "I DO EVERYTHING BY EAR AND FEELINGS, AND THIS TECHNIQUE HAS HELPED ME A LOT TO GET A GOOD STARTING POINT"

What are you currently working on?

"The album I've just finished really explores a vintage analogue sound with live instruments, so for now I feel like working on more electronic and club music. I want to release a club EP next to develop the club aesthetic of this spacy sound. I also have in mind to release a deluxe version of the album with more rock-infused tracks that belong to the universe of the album."

KARTELL'S TOP TIPS

Layer your kick

1 **"One of the most useful tricks I've refined lately for club music is using different layers of kick, each one with a different purpose. I usually have one for the sub and depth where I take out everything above 100 Hz, another one for the presence peaking between 100 and 150Hz, and two others for the attack, where I usually roll out frequencies below 600Hz and 1.5kHz.**

"The first two kicks, with the boom usually sitting around 50hz and the presence around 100hz, should actually peak together almost at the same db level. If you monitor them with a good EQ, adjust gain staging and clear out unwanted frequencies on each of them, you get a really clean, thick kick."

Use saturation to add glue and grip to your sound

2 **"I have used a lot of Decapitator and Saturn 2 on many elements to get some subtle transients and warm breath. I have treated almost all of my drums with a chain of Decapitator and Saturn, gluing everything nicely together since I'm using a lot of layers of live drums and samples. It's also working nicely on synth and pads to degrade the sound a bit and bring up transient frequencies."**

Use room, reverb and delay to sit your elements in a defined space

3 **"Making music on a computer tends to sit everything on the same level, coming with the same energy, and I feel like recreating a space and a room where it lives is essential. I have used a lot of reverbs, delays, a space modulator and a frequency shifter from Valhalla on this album."** FM

© Gonzales Photo / Alamy Stock Photo

Mr. Scruff
Ninja Tuna

Ninja Tune, 2008

By this, his third album, Mr. Scruff was on a roll. After coming out swinging with his first few LPs and signing to Ninja Tune, he'd cemented his reputation as a beat-maker extraordinaire. His calling card? His silly sausage sense of humour, and seriously eclectic taste in music. Both of which are found in spades across *Ninja Tuna*. From the trademark fishiness of the title, and self-penned cartoon cover, to the broadest beats and glorious grooves he tucks inside.

Musically, the album takes cues from his all-night DJ shows, where devoted dancefloors regularly lost themselves to impeccably mixed jazz, breaks, funk, disco, hip-hop and house. He covers all those bases (with added bass) and more, across the album's tracks. "It's like a DJ set," he explains. "But, in the studio. Trying to find those different shades and moods, to make a cohesive body of work."

The studio, fittingly located in Manchester's former textile industry, was where Mr. Scruff stitched together his rich tapestry of tracks. Assisted by long-time engineer, Phil Kirby. And multi-instrumentalist and studio ally, Andy Kingslow. Scruff worked quickly, fleshing out ideas and running in ideas off vinyl, seeing what stuck.

"I was still sampling, but also working with a lot of musicians," says Scruff. "But, the two seem to sit really well on this album. "And, because I've worked with Phil since the early '90s. And with Andy being so great to bounce off. It just gave the whole process a lot of momentum."

It was happy time, and it shows, with guest rappers, singers and producers including Roots Manuva, Alice Russell and Quantic never failing to meet Scruff's super jolly levels of fun and funkiness.

"I was just having lots of fun with all the collaborators," says Scruff. "And it really helped, working in a studio that wasn't mine. I'd tram down and do a proper nine-to-five, making sure I was well-prepared. It's not like making music in your own house. And then getting distracted by the washing up."

Ninja Tuna has just been reissued for the first time on triple-vinyl, and is available from Mr. Scruff's Bandcamp page (details on the right).

Words by Roy Spencer

Track by track with **Mr. Scruff**

Rejoice! Mr. Scruff has just given his classic album *Ninja Tuna* a fancy reissue makeover. Originally released as a CD in 2008, it's now available for the very first time in a deluxe triple-vinyl package. It comes with six bonus tracks from the era, and an "infinity peelable" sticker of a cartoon fish on the cover. Head to his Bandcamp to bag a copy, where we're jokingly informed each pressing contains "sprout trimmings, hair, pastry flakes and biscuits".

"With albums, I just get into the role of going in the studio. I don't really think about what kind of music I'm going to make. I just do as much as I can. Throwing myself in, and being as free as possible…

"I do loads of tunes as quickly as I can, and finish them. Then, when I've got about 10, just stand by what I've got.

"It's then that you end up with a direction, as well as adding a bit of a surprise. Because, you're like, 'Oh, wow – I never even realised that was happening!'"

Test The Sound

"It's an intro. Almost like off an old hip-hop album or something. It was also a statement of intent, because, from the late '90s, I'd been getting into what Phil [Kirby] called a kind of macho bass thing. And this was just a little bit of a very rolling, heavy little taster, you know? But, with a bit of a childhood vocal, some heavy drums, and a daft Moog bass.

"I always like to start this way. I think I just got myself into a little thing, you know? Same with all the fish tunes. Like, 'I'll just do one of those every album', you know what I mean?"

Music Takes Me Up

"This track features Alice Russell on vocals. I've had a very long working and friendly social relationship with her through Tru Thoughts. She's really funny, and she obviously has got an amazing voice.

"For this, we decided to do a song about music – just an uplifting, jolly thing. But the music was also kind of tough and rolling. I played some one-finger keyboard stuff. Andy [Kingslow] played some nice Hammond organ. He's a virtuoso in so many styles of music.

"Then he went back and forth with Alice on the vocal harmonies, and took her a little bit outside her normal range and normal tonality. What makes this such an intriguing tune is that harmonic depth."

Donkey Ride

"This is with Quantic. He's amazing. We'd done a few tunes together, by then. He came up to Manchester, brought his bass, and played guitar.

"Him and Andy were jamming, and I was chucking samples in and getting involved. Kind of directing. I liked that, because I had Andy, who was this very talented session musician, on tap. It was nice to step back from the process as things were being tried out and say, 'Yeah, that!'

"Andy played that montuno-style piano in the middle, which gave it a really nice flavour. We'd do a maximum of two takes. I like to capture everything quickly, as it's being figured out. It adds a very human feeling."

Hairy Bumpercress

"The live bass here is from Jon Thorne, who's best known for his work with Lamb. He's completely on it, all the time. He's crazy about music. I love working with people who are, yeah, just a bit crazy. It's about capturing some of that energy on the track.

"We were stamping around on the floorboards and recording that. It worked with the double bass – that wooden sort of resonance. Then Andy's on the keys and the Wurlitzer, which is beautiful on this.

"There's also a fruity middle bit, where the loops go off, like a kind of primary school Steve Reich. Then it suddenly snaps back in. It's like being dragged backwards through a forest for a minute."

Whiplash

"This is one of the tracks on the album where I did most of it. For the drums, I got very 'scientific', as Danny Breaks calls it. But keeping the momentum and keeping it rolling. You don't want to be tricky for the sake of it.

"With this tune it's all 'on/off'. You know what I mean? So, you've got, like, two bars of something happening, musically. And then there's something a bit complicated, answering it. You know?

"It gives it this established structure, in terms of a little bit of a call and response.

"Then there's the [Roland] SH-5 on top, which was mad. That was me, just properly making friends with that, over the beats."

Nice Up The Function

"Roots Manuva is on this. I just wanted to do something really sparse for him, especially after the previous tune, which was just like [makes hectic noises].

"All the tunes up to this point in the album have been quite dense. Not necessarily complex, but quite full, in terms of fat sample breaks, room noise, and that rolling style.

"Here, I wanted to pull it apart, and have more of a skeletal thing going. And, because of how Rodney [Manuva] is… He's mega off-the-cuff. And he's got such a rich, round voice. His whole swing, and his way with language, and all this kind of thing. I just wanted to give it a lot of space."

Bang The Floor

"I did this one with Danny Breaks. He's great – obviously with his drum 'n' bass stuff, but, also, that formula of proper fat hip-hop drums with the bass that you just couldn't mess with.

"There was a recognition of, like, 'Alright, we're both spending quite a lot of time in this musical territory'. So, he came up to Manchester and we got jamming.

"Danny would be playing stuff. Andy would be playing. And we'd be tweaking all the filters on the SH-5. You can't automate. And the whole front panel is quite complicated.

"Andy had a funky bassline going and both Danny and I would be all over the filters going [makes squelchy noise]. It was a lot of fun."

Get On Down

"This uses a version of a tune called *A Star In The Ghetto*. It's a Prince Phillip Mitchell tune, but this is a Johnny Adams version. He's an amazing vocalist.

"I was listening to an obscure modern soul CD in the kitchen when it came on. That little 'Get on down' bit just jumped out. The whole tune's amazing, but it was like, 'Ooh, that's nice'.

"I just started chopping it up. And, you know, with a sample, it's just how you bounce off it.

"Obviously, my general first thing is to get some drums going, and then start to jam. Then get a couple of matching sounds. Because, sonically, the sample sets the tone."

Hold On

"Andreya Triana sings on this. She's got such a distinct, smoky voice, I'd describe it as. And she's able to reach a lot of different emotions and moods, which I admire.

"I looped up a Claudja Barry tune. This slow, European, chunky disco thing. I built up the beat, added bass, and kept it simple.

"Then there's a little horn line running through it that I chopped up. There are a few different sections.

"When I'm working with a sample, I'll have two or three options to choose from. Sometimes, you let it roll. And, other times, I'm going to switch it up, halfway through.

"Andy plays Wurlitzer. And there's amazing trombone from Nichol Thompson, augmenting the horns that were there already."

Give Up To Get

"What I did here, was something I often do in the studio. I just get a nice loop going, then play something quite floaty over the top that doesn't have a lot of percussive elements.

"The turntable in the studio was a belt-drive hi-fi deck, so you couldn't pitch it to match. You just play stuff, and it drifts over the beats.

"It might be a little bit behind, or a bit slinky and rubbery. But, that feel and how it interacts with the other things around it, gives it that slight mismatch. And, that's the groove, isn't it?

"Obviously, you're hoping for some kind of serendipity. So, I always record it, as it's playing."

Kalimba

"I got a nice beat together, and Andy played a lot on it. There's lots of me and him, jamming and communicating a lot. It came together quite quickly.

"Then, Andy had the idea to add some strings, and got his friend Pete Whitfield in. He brought in a violin and stood in different positions in the room with one mic. He'd obviously done this before. And it got that full string section sound. He's a great arranger.

"It's quite catchy and jolly. But, there's lots of complexity in there as well.

"For this album, that's the recurring motif. The arrangements are quite involved. And there's a lot of progression. But, it's still very danceable and listenable."

This Way

"Pete Simpson – what an amazing, amazing vocalist. Same again, dead easy-going and lovely person.

"I think he was living in Austria. I sent him all the parts. And the beat was quite simple. And he was just crazy with the harmonies.

"And then Andy and I really sort of fleshed out what he'd done, because harmonically he knows exactly what he was doing.

"I just smile when I remember working on that track, just because of the richness and the soulfulness of his voice."

Stockport Carnival

"This is another one where Andy played a lot of stuff on it. He played the piano. And I suppose it ended up as this weird, vaguely Latin, hip-hop thing. He played that nice little rolling piano riff. And I built a beat around that. And then we just got some musicians in.

"So, Ricky Weedon is on percussion, and there's Paul Farr, who's a ridiculous guitarist. He came in and played on that, and a lot of his amazing solos were one take.

"Then, Bernard Moss is on flute, who I've known since his days in Pork Recordings. Neil Yates is on trumpet. And an amazing trumpet and flugelhorn player, James Knight, who's another ridiculous, very fiery, very funny chap.

"It was all fluid and beautiful, and everyone really helped to pull the whole track together." FM

In the studio with Mr. Scruff

"The main synths were the Juno, Moog Voyager and the Roland SH-5, which was used for a lot of the squelchy bottom-end on the album. Yeah, it's like a spaceship, you know? It's amazing bit of kit. And, the other keyboards were the Wurlitzer, Rhodes, and Hammond.

"And then lots of nice outboard [effects], as well. So, Distressors and Avalon EQs. A Manley VOXBOX. And those big Manley Massive Passives, and summing mixers.

"The software was Logic. The main thing, for me, working in Logic is we weren't really using MIDI, or anything like that. It was more just recording audio, you know?

"Most of the keyboards in there were MIDI'd up anyway. So, it's more just jamming, and then recording the bass, guitar, trombone, strings, whatever. And then just hacking and chopping.

"And the same went for all the samples. I was recording audio in from a deck, and then just sort of chopping it up. Yeah, audio rather than triggering – kind of old-school MIDI sampler-style."

WANT TO KNOW MORE?

For Mr Scruff's latest releases, including the *Ninja Tuna* vinyl, head to: **https://mrscruff.bandcamp.com**

LIKE IT? TRY THESE...

Mr. Scruff
Ninja Tuna (Vinyl Debut Edition)

This reissue wax package dropped in March, and comes with some bonus bait, pulled out of the funky fishing net, that never made the first catch.

ADD THESE TO YOUR PLAYLIST:
'Zen (with Skuff & Inja)', 'Nice Up The Function (Remix Instrumental)', 'Bunch of Keys (LP Edit)'

Roots Manuva
Slime & Reason

Also from 2008, and on the Ninja-adjacent Big Dada label, is this Scruff collaborator's super solid solo album.

ADD THESE TO YOUR PLAYLIST:
'C.R.U.F.F.', 'The Show Must Go On', 'Buff Nuff'

Quantic & Alice Russell With The Combo Bárbaro
Look Around The Corner

Two *Tuna* stars align on this 2012 Latin and jazzy joint, mixing brassy grooves with some meaty beats.

ADD THESE TO YOUR PLAYLIST:
'Look Around The Corner', 'Here Again', 'Boogaloo 33'

Danny Breaks
The Outer Dimension

Although pioneering all types of dance and DnB, Danny's illest breaks are often found on his own Alphabet Zoo imprint.

ADD THESE TO YOUR PLAYLIST:
'The Third Dimension', 'Attack Of The Beatazoids', 'The Bionik Skratch"

Andrew Kingslow, Philip Kirby, James Knight
Daft Funk

When they're not helping Mr. Scruff make marvellous music, this trio can be found dabbling in their own daft and funky music, like this.

ADD THESE TO YOUR PLAYLIST:
'Bobby Oddity', 'Love Is', 'Starchild'

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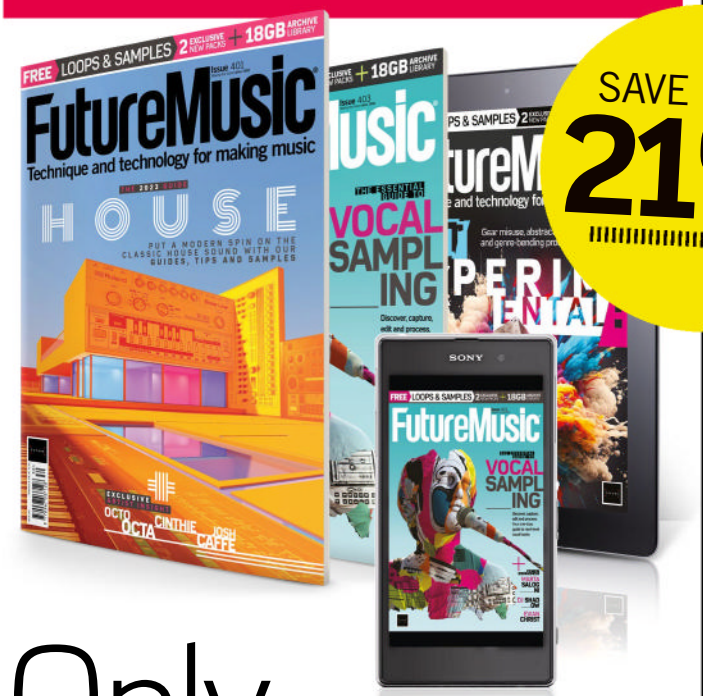

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© Martha Hoet

ALBUM OF THE MONTH

Adam Wiltzie, Eleven Fugues for Sodium Pentothal

Kranky

Adam Wiltzie is best known for his work with Star of the Lid, the influential drone outfit he founded alongside Brian McBride, who sadly passed away last year. *Eleven Fugues for Sodium Pentothal* is Wiltzie's first true solo album, released under his own name. Despite the bleakness of its accompanying press release – in which Wiltzie describes the album as being inspired by a dream in which "if someone listened to the music I created, then they would die" – *Eleven Fugues…* sits at the more accessible end of Wiltzie's output, clocking in at a comparatively bite-sized 35 minutes and employing the familiar cinematic swells of his *A Winged Victory for the Sullen* project.

Accessibility shouldn't be mistaken for a lack of depth, though, and there's a lot here that makes it clear why Wiltzie is heralded as one of the genre's defining musicians. While the nine tracks here – we have to assume the title is slightly tongue-in-cheek – have a general form that has been much aped within ambient music, consisting largely of slowly swelling guitar chord and droning synths, there's a level of textural detail here that sets the music apart from lesser copycats. That's particularly true on tracks like *Stock Horror*, where an undulating drone descends into a gritty void of sandpaper-like noise effects. Or on closing track *(Don't Go Back To) Boogerville*, where a string section is recorded in a way so that the physical noise of string and bow becomes as much as part of the sonic character as the notes they're playing.

Despite its relative brevity, the album is thoroughly cinematic, recalling both Witzie's collaborations with Jóhann Jóhannsson and, in places, Ry Cooder's classic score to *Paris, Texas*. ***Si Truss***

ADD THESE TO YOUR PLAYLIST
Stock Horror, As Above Perhaps So Below, (Don't Go Back To) Boogerville

VERDICT 8.0

ON OUR PLAYLIST

ALBUM

Shabaka, *Perceive Its Beauty, Acknowledge Its Grace*

Impulse!

As a saxophonist working with acts including Sons of Kemet and The Comet is Coming, Shabaka Hutchings has emerged as one of the breakout stars of contemporary British jazz. With *Perceive Its Beauty*, Hutchings is making good on a commitment, announced last year, to take a hiatus from his best-known instrument in favour of a new focus on flutes and woodwinds. Given this, and the album's obvious spiritual jazz influences, the recent flute-led album from Outkast's André 3000 seems like an obvious reference point here. Shabaka's work, while still at the ambient end of jazz, is more focused than that record, though. In fact, a better comparison is Floating Points and Pharoah Sanders' gorgeous 2021 album *Promises* – which perhaps isn't so surprising, seeing as Hutchings has been standing in for the late Sanders at recent live performances. As with that album, *Perceive Its Beauty* roots its more ethereal elements in delicate string arrangements and light-touch ambient electronics. The results are proof that it wasn't just the sax making Hutchings a star. *Si Truss*

SINGLE

Ikonika, *Details*

Night Slugs

As one of London's hardest working and DJs and producers, 15 years into her career, Ikonika still has a remarkable ability to sound like she's operating at the cutting edge of dance music. This latest single for Night Slugs is a prime example, mashing up rhythms from UK funky with contemporary South African club music. Multiple synth hooks intertwine with swung, distorted bass, all providing a lively counterpoint to Ikonika's distinctive, laid-back vocal lines. An excellent mood-setter. *Si Truss*

EP

Romare, *Here Comes The Night*

You See

Following on from last year's '70s-inspired album *Fantasy*, UK producer Romare releases an EP that trades some of his usual esoteric, sample-collage approach for a more direct, dancefloor-focused sound. The five tracks here are largely built around looping drum machines and undulating monosynth lines, but Romare still makes space to toy with an assortment of influences, pulling in elements of jazz, disco and b-boy electro. *Si Truss*

RECOMMENDED

Low End Activist, Airdrop

Peak Oil

© Alana Neumann

ALBUM

Bristol-based producer Low End Activist has established a sound that sits at a mid-point between hardcore and ambient. Take a cursory scan through the tracks on *Airdrop*, and you'll likely settle on plenty of moments where a pulsating sub-bass or skittish jungle break gives the impression of a sweaty rave banger designed to be enjoyed in some provincial field at 6am.

Taken as a whole though, these tracks are filled with as much negative space and slow-build tension as hedonistic release. While jungle and drum & bass rhythms keep the record moving throughout, grooves rarely persist for longer than four bars before fracturing into wispy deconstructed versions of themselves. The result is closer to a half-forgotten memory of a rave than the event itself. *Si Truss*

VERDICT 8.0

Caribou, Honey

City Slang

TRACK

When we interviewed Dan Snaith around Caribou's last album release in 2020, he told us that when he creates music under his dancefloor-focused Daphni alias, he tries to imagine how each track might fit into the set of one of his DJ friends.

With this in mind, it's curious that *Honey* comes labelled as a Caribou track, as opposed to Daphni – with its joyful absorption of bassline and UK garage, and its simple, to-the-point vocal hook, the track feels tailormade to be dropped in the much-TikToked sets Snaith's regular collaborator Four Tet (who helped arrange the track) has been playing alongside Skrillex and Fred Again…

Whatever the thinking behind the alias, you're likely to be hearing this a lot at any festival you attend this summer. *Si Truss*

VERDICT 7.0

SUPERCHARGE YOUR STUDIO WORKFLOW

Is your studio setup blocking – rather than unlocking – your music making? Get more out of every session with our guide to maximising your creativity

The array of plugins, synths, controllers and sequencers on the market these days offer near limitless potential. When creativity strikes, there's no end to the roads it can lead you down.

Sadly though, alongside this comes a lot of admin, necessary preparation and potential issues, all of which can get in the way of your creativity. Unlike, say, composing a song on an acoustic guitar, where – aside from tuning and possibly changing a string – your instrument is almost always to-hand and ready to go, composing an electronic track or recording music in a DAW comes with a long list of potential pitfalls.

Whether you're largely in-the-box or running a varied selection of hardware and outboard, the truth is that your studio has as much potential to get in the way of your creativity as it does to unlock it. Whether that's the process of having to find, load and access the right sounds, dealing with latency or connectivity issues or struggling with an awkwardly designed or bad-sounding space.

That's what we're dealing with this issue. Rather than looking at making music itself, we're here to tackle the things that might stunt your creativity. Over the following pages, we'll look at the many ways to connect a modern studio and we'll get some advice from an expert who has helped configure studios around the world. First, we've collected some of the best workflow tips from our team of experts, to offer quick ideas that will help turn your studio from a hindrance to a help…

5 quick ways to get more from your studio sessions

1 Template it up

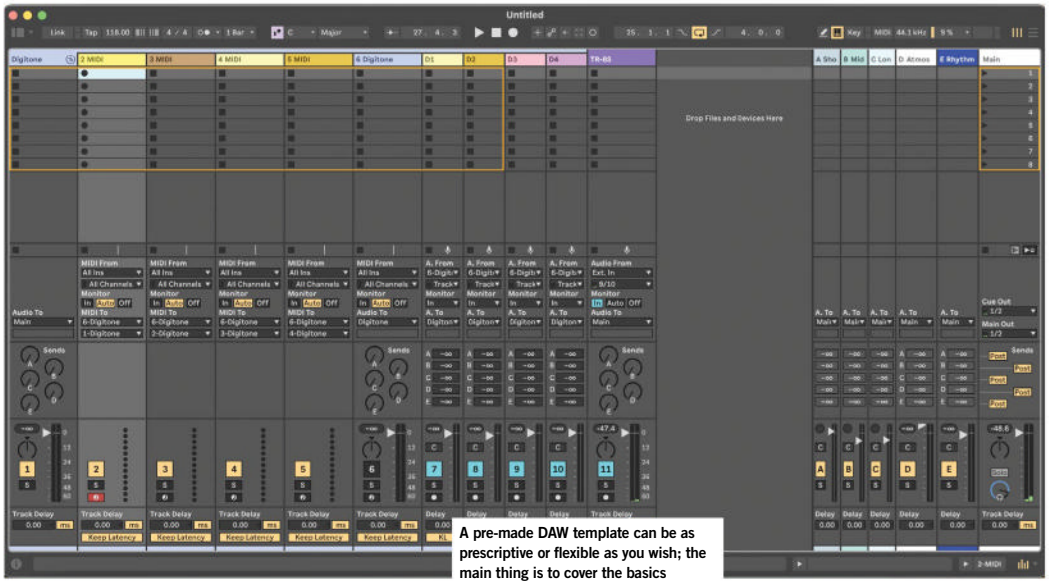
DAW TEMPLATES ARE among the most effective ways to organise your workflow. So much time can be lost browsing and waiting for a plugin to be instantiated, and sometimes you can almost feel the excitement at a good musical idea fizzling out as you browse for a sound. The issue for those who work with electronic music tools is that not only do we have to think about 'the notes', we also have to think about the sounds those notes will play, which means we're constantly toggling between being musicians/composers and then programmers/engineers, looking for the right sounds that can do our best ideas justice.

Most musicians are prepared to compromise on the finer details of sounds until the songwriting/composing stage of their work is complete, so long as the sounds in front of them are inspiring enough to allow a good idea to be explored. Enter the template. This is a working environment for your DAW which can be tailored to your specific musical needs. Say you're a songwriter who likes to work chords out on the piano before recording guitar through a microphone, then entering a basic idea for a bassline via a favourite plugin and finally adding basic drum grooves via a specific library. Why would you open a blank document in your DAW each time if, almost always, you reach for these same instruments and audio tracks? Wouldn't it be better and more time-saving to have a track saved with your specific preferences and instrument choices, so that you can have all of those sounds ready and waiting in front of you? Yes, it would.

Perhaps a better example would be a template for those composing music for picture. Junkie XL (aka Tom Holkenborg) has switched his career from producing stadium-filling dance music to that of a film composer (his scores include *Mad Max: Fury Road* and *Deadpool*) and his *Studio Time With Junkie XL* series on YouTube is well worth a watch. His composing template extends to over 1,000 tracks so every time he sits down to work, every orchestral section, with every possible articulation, in every different size of orchestral group from solo to massed orchestral players, is available. Alongside these, he has a huge array of drum libraries (third-party ones, as well as those he's made himself), access to a phenomenal collection of hardware synths and vast swathes of instrument plugins too. Add to this effects solutions aplenty, when he finds a sound he likes, he's ready to place it in one or more 'spaces'.

Now, you might be thinking, isn't that overkill? Even the fastest computers in the world would take several minutes to load up that level of track count, so what do you do if inspiration strikes and you don't want to drum your fingers on the table, restlessly awaiting your computer to complete the loading process just for you to have access to a single piano plugin? The solution is to make several templates to cover your assorted needs. At the very beginning of the writing process, limiting yourself to provide momentum might be enough to allow you to get up and running quickly: perhaps just use a piano, some ensemble strings (rather than dedicated instruments for every string section) and a couple of percussive instruments. This will be particularly effective if the instruments and effects settings within this smaller template are a pared-down version of the larger one, as translating these scratch ideas into more sophisticated ones will be more straightforward. Templates aren't the only way to streamline your creative process but they're among the most worthwhile.

> "WE CONSTANTLY TOGGLE BETWEEN BEING MUSICIANS/COMPOSERS AND THEN PROGRAMMERS/ENGINEERS"



A pre-made DAW template can be as prescriptive or flexible as you wish; the main thing is to cover the basics

BUT AVOID TEMPLATE FATIGUE...

For all that we've advocated building templates to kickstart your creative process, it's incumbent upon us to address the elephant in the room…

If you always work with the same template sounds, won't that make your music dull and predictable? Of course, there's no fixed answer to this question as it fails to take into consideration the kind of music you make and the size of template you're intending to build.

Let's suppose you've been commissioned to write a computer game soundtrack for a hybrid 'symphony orchestra plus electronic texture' kind of score. Are you really going to set up every instrument of your strings, woodwind and brass instruments every time, from scratch, for every cue? That would waste a lot of time, as those instruments are going to be 'common' to each cue. However, the electronic textures might well vary from one cue to the next, so potentially not including a specific group of these in every cue might help keep this side of the soundtrack fresh.

The same rules can be applied to any other kind of production. If you write electronic music and you're working through songwriting ideas with a singer, having a 'known' collection of sounds in a template might well save you valuable time when a great new hook or lyrical idea needs putting down quickly. You can then abandon

the template altogether when the production really starts. If the alternative is setting up every sound from scratch, templates will – at the very least – get you making music more quickly.

If you're lazy enough not to modify or adapt each track with the bespoke choices your music needs… well maybe that says more about you than it does your template!

2 Get organised

SEARCHING FOR THE right power adapter, audio connection or MIDI lead can cause an unnecessary slow down in your workflow. Or worse still, plugging all your gear in only to find there's some kind of fault you need to find and address. Take some time to make your accessories neat and tidy!

GROUP YOUR CABLES

This will make fault-finding easier, allow gear to be moved and patched quicker and help reduce cable-borne noise problems. Keep cables grouped together by type (ie, audio, power, MIDI, etc) as this will make it quicker to find a particular line. Putting some distance between types will reduce the potential for EMI problems (electro-magnetic interference), as mains cables can induce a 50Hz hum on audio cables. If mains and audio cables must cross paths for any reason, then do so at a 90° angle to minimise hum induction.

TIDY YOUR CABLING

Use Velcro cable-ties, easy-release plastic ties or flexible trunking to keep your grouped cables together. This means that the bunches can be arranged to allow for maximum floor space and minimal cable treading.

Save money by getting lengths of sticky-backed Velcro and making your own loops. Don't bunch cables with electrical or gaffer/duct tape as they leave an annoying sticky residue after only a day or so – only use tape as a temporary measure.

CABLE STORAGE

Having organised and tidied your installation cabling, why not treat those patch and instrument leads to some respect, instead of leaving them in tight coils and tangles on the floor? Most music gear outlets sell cable hangers, but you can also make your own by adapting any number of shelving brackets, coat racks and long screws wrapped in foam and cloth.

START A 'FAULTY' BOX

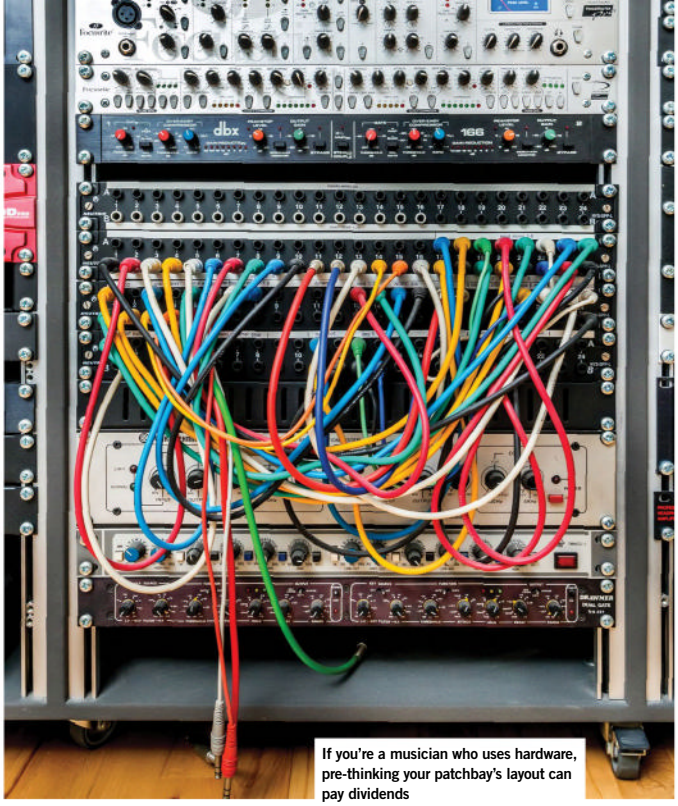
Every dodgy cable or faulty stompbox should go in this box so you can either repair it or recycle its components, instead of putting it back in the collection only to disappoint you again. Don't put up with a cable that needs a wiggle when you use it – put it in the box now and rid yourself of its time-sapping ways. Every now and then recycle/repair the contents or sell it as a job lot on eBay.

ORGANISE YOUR GEAR

Identify any items that you don't use and consider selling or swapping them – space is always at a premium. Are there items that you don't use because they're not wired up? If it's not hooked/racked up, it's rare that you'll use it. If you can't bear to part with it, then hook it up to the patchbay or set it up ready for later use – you never know when it might provide just the right sound or treatment.

ACCESS AND ELBOW ROOM

Spend some time considering the layout of your equipment with regard to workflow. Make sure that items you use regularly are within arm's reach from your seat and that the controls and displays do not require you to bend and stretch too much. Try to arrange gear so that nothing else needs to be moved before you can work with it. If something is loose enough that pressing buttons, turning dials or plugging into it makes it move (ie requires one hand to hold it in place) get it racked up or secured in some way. Buying stick-on rubber foot pads can prevent slippage on work surfaces. Use a lot of stompboxes? Why not have a go at sticking some Velcro (hook side) to their undersides and stick the opposing strips (loop side) to a wooden board so that they can be kept patched together and placed anywhere.



If you're a musician who uses hardware, pre-thinking your patchbay's layout can pay dividends

3 Set up a patchbay

IN OUR MODERN world, analogue patchbays might seem a little like antiquated tech. Certainly, as multiple input interfaces become more affordable – or ones that can be easily expanded using ADAT – you might think there's little need for something as apparently old school as a patchbay. There are, obviously, some musicians who will have absolutely no need for one. It goes without saying that if you're entirely in-the-box, or you're confident your audio input needs won't exceed that of your interface, then there's little point. But for those with a growing collection of hardware instruments or those wanting to make use of hardware effects, patching up can be an affordable route to I/O flexibility. Here's why…

ORGANISE

A well set up patchbay (ie all equipment I/Os connect to it and are labelled accordingly) will save time when routing signals as you will no longer go fumbling around the back of your rack (or gear pile). It will save wear and tear on the connections of

Keeping your cables tidy not only means easy access, but also prolongs their usage life

your equipment and experimentation with routing options, thus making the most of what you've got. The patchbay centralises the grounding of your gear and reduces the potential for ground loop noise problems – where loops occur a ground 'lifted' patch cord can be used to alleviate the problem.

CONNECTIONS

Most patchbays also feature user-configurable signal flow options referred to as 'normalling'. A 'normalled' patchbay will feature a permanent connection between the top and bottom row connections that is broken when a jack is inserted into either top or bottom row sockets. This will, for instance, keep a mixing desk channel insert send and return connected until they are routed into an external processor. A 'half normalled' patch restricts this signal breakage to the bottom row only so that, for instance, the insert send can be routed to another destination while keeping the flow uninterrupted. Patchbays can also be configured to be 'non-normalled' so that there is no connection between top and bottom rows without the use of a patch cord.

LABELLING

As a final note, it might be obvious but a patchbay is only ever as good as its labelling – you do have to know where everything is, otherwise it's useless. Having said that, the patchbay 'lucky dip' can produce some unexpectedly creative results, though often you'll just get silence or a slight hum.

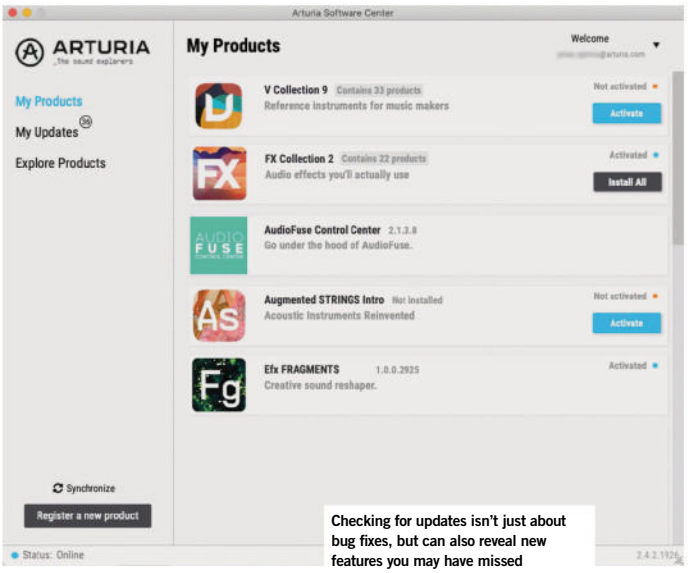
4 Saving and mining sounds

YOU'LL OFTEN HEAR it said that you should record everything you do in the studio, and save any project or ideas, even if you hit a creative dead end. This is definitely good advice; even if something doesn't inspire you in the moment, you never know when a forgotten idea might gel perfectly with a new project. Devising a good system of saving and labelling ideas – whether as DAW projects or bounced audio – is a must-do for maximising your workflow.

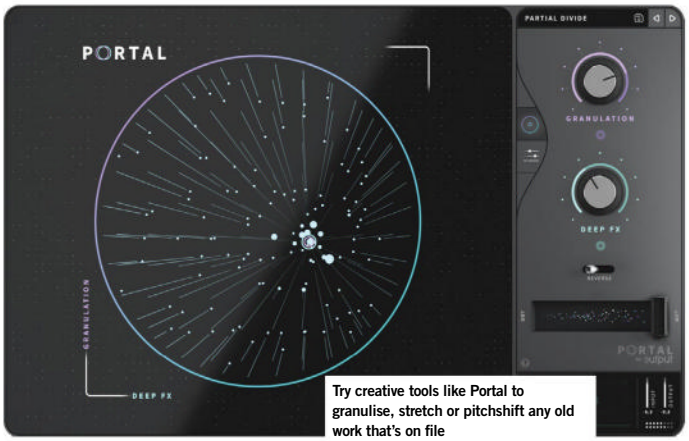
But how should you actually engage with these old ideas? One of the most interesting ways in which you can bring new levels of creativity and originality to your workflow is to find new ways of thinking about sound. Most of the time, if we're working with software plugins and instruments, we tend to think about making new sounds in fairly 'traditional' ways: dial up an instrument, browse presets, make tweaks or build sounds from scratch and then play them into our DAWs, usually via MIDI keyboards. But this does tend to lead us along familiar musical avenues, as the muscle memory in our hands makes us reach for the same kinds and shapes of chords.

One way around this is to turn your creative brain upside down, so that rather than it feeling responsible for creating sound in this way, you can imagine instead that a huge lump of it exists and it's your job to 'sound mine' it, chiselling away at it until it becomes your own. So instead of reaching for a MIDI keyboard, find a way to get a chunk of promising audio into your workstation and then start to probe at it, looking out for sonically rich bits. Listen for little moments where something odd happens, or where a surprising 'pitch' emerges out of something noisy. The moment might only last for a moment and yet, with timestretching, pitchshifting, looping, effects processing and more besides – granular tools like Output's Portal, a favourites of ours – you can take a 'rough diamond' and mine it into something original, new and entirely yours, without a note having been pressed on your keyboard.

The beauty of working this way is that, because the 'sonic details' which catch your ear will be different from one day to the next, the range of potential music you could make as a sound miner will be correspondingly diverse. Start with a different chunk of sound and you'll make completely different choices. So once you've explored the ideas and techniques we showcase, go your own way from your own starting point.



Checking for updates isn't just about bug fixes, but can also reveal new features you may have missed



Try creative tools like Portal to granulise, stretch or pitchshift any old work that's on file

"IT'S IMPORTANT TO SET ASIDE TIME TO TICK OFF THOSE NON-CREATIVE ADMIN CHORES THAT CAN GET IN THE WAY"

5 Stay updated

IN ORDER TO hit the ground running during your creative studio sessions, it's important to set aside time to tick off those non-creative admin chores that can otherwise get in the way and cause you to lose momentum. One important such chore is to ensure your gear is updated to the latest version. This is obviously most relevant to software, where the latest update to a DAW or plugin is likely to include important bug fixes and workflow improvements, but may also add new features, sounds or presets. Some software applications will check for updates automatically, but others require you to open up an additional update application – such as Arturia's Software Centre – or even such on the developer's website manually. It's worth setting aside time to check that all of your most used apps are up-to-date.

This goes for hardware gear too; while software updates are a common consideration, many of us overlook the benefits of checking our hardware is running the latest firmware. As with software, doing so can help avoid bugs, but in modern times firmware updates often bring new features to instruments and controllers. Take time to read the release notes for each firmware update; exploring the possibilities of a new feature or capability could inspire you for your next session.

One caveat to all of this is that you should pick your moments for OS updates. While updating your operating system is a necessary part of digital existence, rushing into it can cause issues; particularly for Mac users. Hold off a few weeks to make sure your DAW, interface and plugins are compatible with any new OS. And don't even consider making an update in the midst of an important project.

© Richard Ecclestone

Want to marry up your digital desktop or mobile DAW setups with hardware synths or a Eurorack? Get the best from all worlds as we unite analogue and digital in sweet harmony...

THE MODERN ARRAY of setup choice is a great thing. There is a problem though. As brilliant as all of these worlds are in their own rights, they do tend to exist in bunkers, happily doing their thing, their way, without talking with ease to one another. In this feature, we'll detail how to mix these setups so you can enjoy the best of all of them: to experience the pure 'analogue-ness' of Eurorack alongside your digital DAW, to record and control all-in one synths with your DAW, to use your iPad as a gear hub, and to master a rack of MIDI gear alongside modular and keep it all in sync. In short, we're getting our hardware and software worlds to collide and make beautiful music together.

Before we start, we'll assume you have some kind of audio interface. Every scenario we look at requires at least a basic model, and going on you also may require MIDI, MIDI to CV and even a DC-coupled type – more on these later. This is because every example we look at when you are controlling a piece of audio hardware with a DAW will require that audio to be recorded back into the DAW. Then we come to the two main communication standards...

We're at a rich time in music production when various strands of technology are at a peak. Software has never been so creative, with plugin effects just as capable of sonically powerful results as any instrument, softsynths breaking new ground as well as perfectly emulating old, and DAWs able to inspire and conduct the whole exercise. In terms of hardware, the revival of the analogue synth has given us every vintage sound we could ever need, the more recent comeback of the digital synth is giving us new sounds and synthesis types, and Eurorack continues to amaze and delight, filling in any gaps in our soundscapes, all the while creating new ways to create and trigger sounds...

MIDI VS CONTROL VOLTAGE/GATE

The older control voltage (CV)/gate technology was initially employed in the 1970s for analogue synths, in order to communicate by way of voltage changes. The level of the analogue voltage simply determines the level of the data or parameter changed by it. Think of it like turning a knob on a synth up and down; in fact, many knobs on synths actually use that same CV process.

Voltage variations can be measured both positively and negatively over different standards (typically +/- 5v, 0 to +8v, or 0 to +5v). But they all use the same essential theory: that being that the CV part typically creates different values (so it can play different notes, for example) and the gate part switches the process on or off (via note length, for example).

In a CV/Gate setup you have two types of signal, the control (CV) and audio, but these can be interchangeable so audio signals can control parameters and control signals can become audible – an LFO that falls between the audible range of human hearing, for example.

MIDI was essentially devised to bring a standard communication method between instruments and is a digital process that breaks everything down into 128 steps (0 to 127) and across 16 different channels. On a basic level, a typical use could be playing notes on different synths or sound modules via different MIDI channels. By assigning MIDI CC (control change or continuous controller) information, again from 128 values, you can send and receive information from different knobs, sliders, mod wheels etc, so control and record pretty much any parameter in a synth or effect.

Very broadly speaking, MIDI is great for polyphonic, digitally controlled and standard tuned compositions. CV is its more unruly but slightly cooler younger (and older) brother: it's pure analogue and not made of 128 steps; it's as fast as electricity and more likely to result in something unexpected; it's more experimental, differently tuned (if you like) and most definitely waveform-like. CV has made a comeback in recent decades thanks to it becoming the standard for Eurorack modular synthesis. MIDI is the standard used in DAWs for recording information played on softsynths, and also fitted to most all-in-one hardware synths and sound modules.

This, then, is how MIDI and CV can work together (and separately) in your studio setups. The following are general hardware and software studio scenarios and setup solutions. There are many (many!) more that might be caused by (or solved by) more specific pieces of gear; indeed, whatever modular compatibility issue you have, someone will have designed a modular solution for it.

1 The basic MIDI setup

WE'LL ASSUME THAT YOU are first and foremost a DAW user for the purposes of this scenario, and this first setup allows you to tentatively reach out into the physical hardware world and marry up your softsynths and effects with perhaps an analogue or digital synth or two, each with physical audio outputs.

Ideally you'll be needing an audio interface with MIDI, and you'll simply connect up the MIDI out of the interface with the MIDI-in on the hardware synth, and then the MIDI-out from the synth to the MIDI-in on the interface. Then connect the one mono or two stereo audio outputs of the synth to the audio inputs of the interface.

Now make sure the DAW is set to a particular MIDI channel and that the hardware is set to the same channel (or all). You then create an

input audio channel in your DAW, which is set to the audio inputs of the interface, so triggering notes in your DAW (or on the synth keyboard) should result in audio streaming into your DAW from the synth. You now have external synth audio which can be treated with plugin effects and edited just like any other DAW audio.

2 The USB MIDI setup

IF YOUR SYNTH has a USB connection you could connect it directly to your computer if it has a spare USB slot (on top of the one probably used for your interface). This cuts down the need for two MIDI cables as MIDI will be transmitted via USB. However, audio often won't be transmitted, so you'll still need the audio connections described above.

If either of these MIDI situations results in latency – that is an audible (above 10ms) delay – then you will need to tweak settings in your audio preferences, either increasing the sample rate or decreasing the buffer size (usually from 512 to 256 samples), both of which will increase CPU usage. Recording as an External Instrument in Ableton Live, for example, rather than an individual audio interface input, can also reduce latency. In some DAWs, again like Ableton, you can compensate for delay by measuring the existing delay and putting it in as a negative value in the MIDI Clock Sync Delay box of its output in Preferences, the negative number acting in a delay compensation capacity.

THREE OF THE BEST

MIDI-to-CV converters

Convert MIDI from your DAW to CV signals your modular setup will love

Expert Sleepers FH-2
£279

Up to 16-note polyphonic, 16 simultaneous touches with MPE and 64 outs with a MIDI controller (to map 64 physical controls to CV).
expert-sleepers.co.uk

Hexinverter/Erica Synths Mutant Brain
$219/€180

Highly flexible convertor with 16 outputs (4CV, 12 gate) each with a different MIDI channel.
ericasynths.lv

Kenton Pro Solo mk3
£169

The master of interfacing Kenton's Pro Solo Mk 3 is an excellent choice, but for a modular version try the Kenton Modular Solo.
kentonuk.com

3 Master Eurorack with a MIDI-to-CV convertor

MOST EURORACK MODULES adhere to the CV standard and not MIDI (although some, of course, have MIDI connectivity). This means that in order to access that world, you will require some kind of CV 'in', and by far the easiest is to purchase a MIDI-to-CV interface (see our box for three recommendations) which takes the MIDI information you are streaming out of your DAW and converts it into control voltage information that your modular system will be more friendly with.

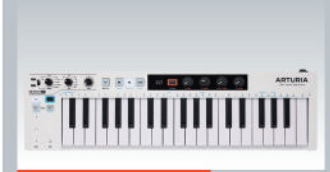
Typically you can connect up a MIDI-to-CV via USB and then take standard 3.5mm patch cables from it to your modular setup. The MIDI information – which can include note length, pitch, clock information, stop/start and more – is converted to CV.

As with both scenarios above, the resulting audio will need to come back into your audio interface. Depending on how many modules you are triggering, you might need to either up the input channel count on your interface, or buy a separate mixer (which can be a Eurorack module, separate analogue mixer or an audio interface with built-in mixer). You may have to deal with latency when recording audio back in, with methods seen in Tip 2 above.

THREE OF THE BEST

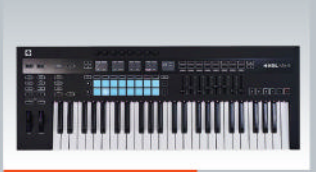
CV controllers

Increase your setup's musical flexibility with these options



Arturia KeyStep 37
£162

Features a 64-step sequencer, USB, MIDI, gate and CV pitch connections for modular gear and analogue sync.
arturia.com



Novation SL MkIII
From £439

Full on-board sequencing, two sets of CV/Gate outs, USB, MIDI, and full control over many DAWs.
novationmusic.com

Akai MPK Mini Plus
£135

A great budget option with an on-board sequencer/arpeggiator, plus chord and scale modes.
akaipro.com

4 MIDI controller with CV connectivity

ONE GREAT SOLUTION to connecting all of these worlds together is to get one of the increasingly common MIDI controllers with CV connections built in. Arturia was one of the first companies to do this, and products like its excellent Keystep let you simply connect a Pitch CV out into a modular synth device's 1V/Oct input and the gate out into an envelope in.

With a Mod output for modulation, a complement of MIDI connectors and even Sync In and Out connectors to lock external sequencers in time, products like Keystep can be the ideal central hardware device for playing modular gear via 'standard' MIDI keyboards and sequencing and

arpeggiating to your heart's content via the hardware.

A word of warning: a CV-enabled controller like this does not necessarily act like a full MIDI to CV convertor for a connected DAW, so a full MIDI-to-CV convertor may be required (see example 3 above).

5 Your DAW with a DC-coupled interface

ABLETON LIVE V10.1 onwards came with a new set of Max tools called CV Tools (which you can now download for free). These excellent tools allow you to create CV signals that can be sent to a DC-coupled interface, which is effectively an audio interface that reads and outputs control voltage data.

The CV Tools let you set up notes and durations easily, though you may need to lock notes into correct pitch positions (also easy). There are also editable LFOs which you can use to modulate your Eurorack modules.

Other DAWs like Bitwig Studio also come packed with CV options, but if your DAW doesn't have CV-style tools, then there are a couple of options. You can get third-party CV tools like CV Toolkit 3 ($19.99 to $49.99 from spektroaudio.com) which contain clocks, sequencer, LFOs and so on, but run standalone so you can still control and sequence your modular gear from your Mac or PC. Again you will still require a DC-coupled interface. Otherwise if your DAW doesn't output CV-style signals, go for the MIDI-to-CV option above for a more limited solution, again requiring extra hardware.

What's really great with this method, and in fact any DAW or third-party app that uses these kinds of CV tools, is that they can also send out clock information so that your modular gear will be sync'd to your computer. You may have to deal with latency when recording audio back in with the methods we used in Tip 2 above.

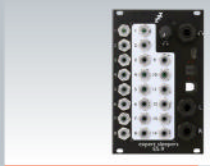
THREE OF THE BEST

DC-coupled interfaces

These devices are designed with modular synthesis in mind

MOTU M4
£235

A 4-in/4-out USB-C interface, it has a fantastic software bundle and four DC-coupled 1/4-inch outputs that double as audio and CV.
motu.com



Expert Sleepers ES9
£549

Eurorack 16-in/16-out USB interface, with both DC-coupled ins and outs. A top end and widely used option.
expert-sleepers.co.uk

NI Komplete Audio 6
£149

6-in 6-out cheap option with four of the outputs being DC-coupled. Great bundle of software too.
native-instruments.com

6 Ableton Link and iOS devices

ABLETON LINK IS a fantastic way of connecting, and more importantly syncing devices together so that they can all play in time. A typical example would be an Ableton-Live-hosted computer syncing with an external iOS app. If the app is Link-compatible – and Ableton lists hundreds that are – you simply enable the Link option and the app's Link feature will connect to a local network. You then enable the Link option in Live and it will detect the app connected in the same network and the two will play in sync.

It's a great system for syncing mobile and desktop worlds but not necessarily your modular one. If you do want your iPad or other mobile device controlling and sequencing your modular world, that might mean using elements of all of the above scenarios. On a simple level you could use a DC-coupled audio interface like the ES9 and apps that output modulation data like Audulus, Drambo and MiRack, so use your iPad like we used a DAW in Tip 5.

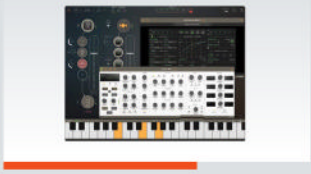
However, there are many more complex setups that we've seen attempting to use a tablet as a central modular controller and sequencer. These may require hardware sequencers rather than the iOS device doing the work, or else use hardware MIDI-to-CV convertors as we've already talked about. Other solutions are MIDI to CV apps like CoVariant or CV generating apps like Silent Way that both spit out control voltage data to DC-coupled interfaces. There are also hub apps like AUM, MIDI Link Sync, Audiobus and Ableton Link attempting to keep things in check.

Basically, the more you grow, so the complexity can too. Our advice, then, as with any form of communication, is to keep it simple (at least initially) and all your worlds – DAW, MIDI hardware, CV modular and even iOS – will get along fine. Mostly anyway.

THREE OF THE BEST

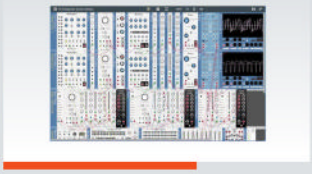
Apps to connect your hardware and iOS worlds

Head no further than the App Store to find these solutions



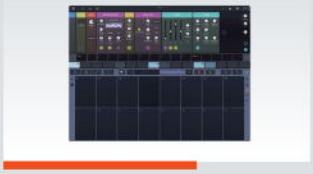
AUM Audio Mixer
£19.99

Mixer that can unite audio from apps and hardware (via an interface) and also act as a great overview and connection hub for more complex setups.



MiRack
£Free

Possibly the app that can unite all of our examples, with Mac, iOS, VST, Ableton Link compatibility, MIDI and support for Expert Sleeper interfaces (ie CV output).



Drambo
£19.99

Can be used as a standalone groove sequencer or to generate MIDI and CV so, as ever, a DC-coupled interface is required. Beware issues with the latest Silicon Macs.

Sondhus has created extraordinary studios for bands including a-ha and Depeche Mode. What can they teach us about making our own spaces work to our advantage?

If you've ever found your gear getting in the way in your studio, or just found your whole recording space uninspiring, then you need to listen to Sonhus' Jim Keller. For the last 13 years, he's been helping everyone from the Juilliard School in NYC to Depeche Mode make the most of the space in which they create and record music, solving every studio problem along the way

FROM PLUGGING YOUR gear in, creating your tunes, to listening back to the results, there is nothing that beats producing your own music… when everything is running smoothly, that is. When things go wrong in the studio, there can be nothing worse, nothing more soul-destroying than having a great idea and not being able to convert it into sound.

Jim Keller knows this well. After working in studios like Avatar in New York and with recording icons including Bob Clearmountain, he and his company Sondhus have become the go-to studio problem-solvers for the likes of Depeche Mode's Martin Gore and the distinguished Juilliard School in New York. Incredibly different projects but with the same goal: to make a space that is comfortable, creative and inspiring for music making.

CHANGING SPACES...

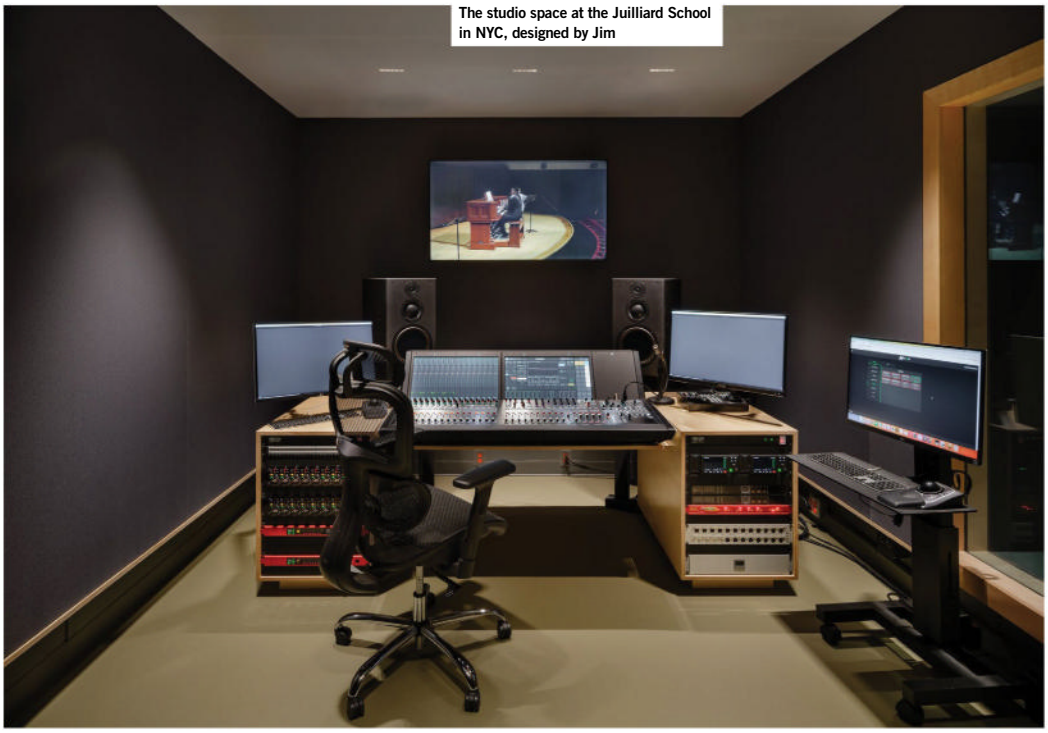
Jim Keller comes from a family of builders, but has always had a fascination with recording studios and electronics, not to mention a love for listening to and recording music. Building recording studios, then, seemed like the obvious career move. But at a time where many large pro recording studios face budget cuts as record companies rely more on streaming than physical sales, designing studios might have a limited scope in terms of a business, right? Wrong.

It turns out that the small-to-medium project studio business is thriving, as bands take their record contract advances and create spaces at home, so Jim's Sondhus business is also booming as he helps them convert what might be a spare space at home into a pro setup.

Jim also has some top tips for all FM readers on how to convert whatever space you use – from garage to bedroom – into an inspiring and rewarding space. But first, let's discover how he creates some of the most incredible-sounding and -looking recording spaces in the world – and more importantly, drool over some pictures of them.

You come from a background of builders, so how did you move into the world of recording studios?

"I had a big passion for music growing up and also for electronics, so knew I wanted to work in studios. I hung out in local recording spaces in Ohio, then moved to LA and worked as a tech at Apogee Electronics, learning a lot of technical things there. The company is owned by Betty Bennett who is married to Bob Clearmountain, and I got to work with him one summer. Then I moved to New York and worked at Avatar Studios which was [and now is again] Power Station. I was really lucky to land there; an old school studio with an unbelievable history. I worked with Rich Costey [Foo Fighters, Korn, Muse and many more] for years. Importantly, I also helped design and build Studio G there.



The studio space at the Juilliard School in NYC, designed by Jim

"Then I went off making records alone, and built two or three studios for myself in New York, and then got really into acoustics. Friends would ask me to help build rooms, then friends of friends, and by 2010, I thought 'this is turning into a thing!' Sondhus began, and the projects got more sophisticated. We're now 13 years in with nine people: builders, design nerds but all musicians."

Rather than big recording studios, you specialise in creating more bespoke studios at home, right?

"Yes, the rooms that we do are custom-tailored studios mostly for private homes. I saw the writing on the wall, making records with bands as the budgets were getting lower. Big studios were closing, but all the bands, producers and songwriters I knew were putting their own setups together and building nice studios so I saw it as a new market.

"A lot of bands now take their advance and build studios themselves. Musicians are naturally creative, so they're thinking 'OK, if we have this chunk of money, we can spend it on a studio or Pro Tools rig with mics', and so on. That's great. I love big commercial studios but also love going to a home studio – that atmosphere can be comfortable and also inspiring. Big studios are still awesome, but I think that you can put together a studio at home and make a record that sounds competitive plus the affordability is amazing."

Is there an overall goal you have with a studio build or conversion?

"It's to make a space comfortable and make it inspiring. You spend a lot of time in the studio so it has to feel right. I know from working in big studios that 14 hours a day in a studio without windows sucks; it drains you and there's nothing inspiring. When we have the opportunity to have natural light, we keep it at all costs."

What were some of the first high profile projects you took on?

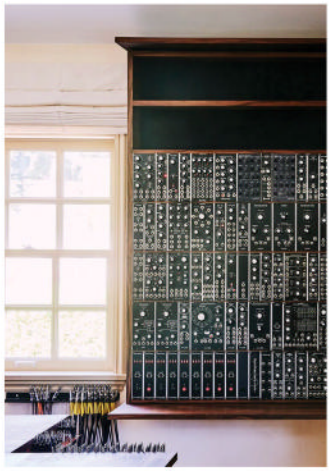
"The first one that solidified the idea into a business was for Paul Waaktaar-Savoy who is the guitarist and songwriter for a-ha. We built a studio for him in New York. It was the first time we had a decent budget and he has great taste aesthetically, and also the first time I felt that my vision for Sondhus was sealed: that the room looked and sounded great."

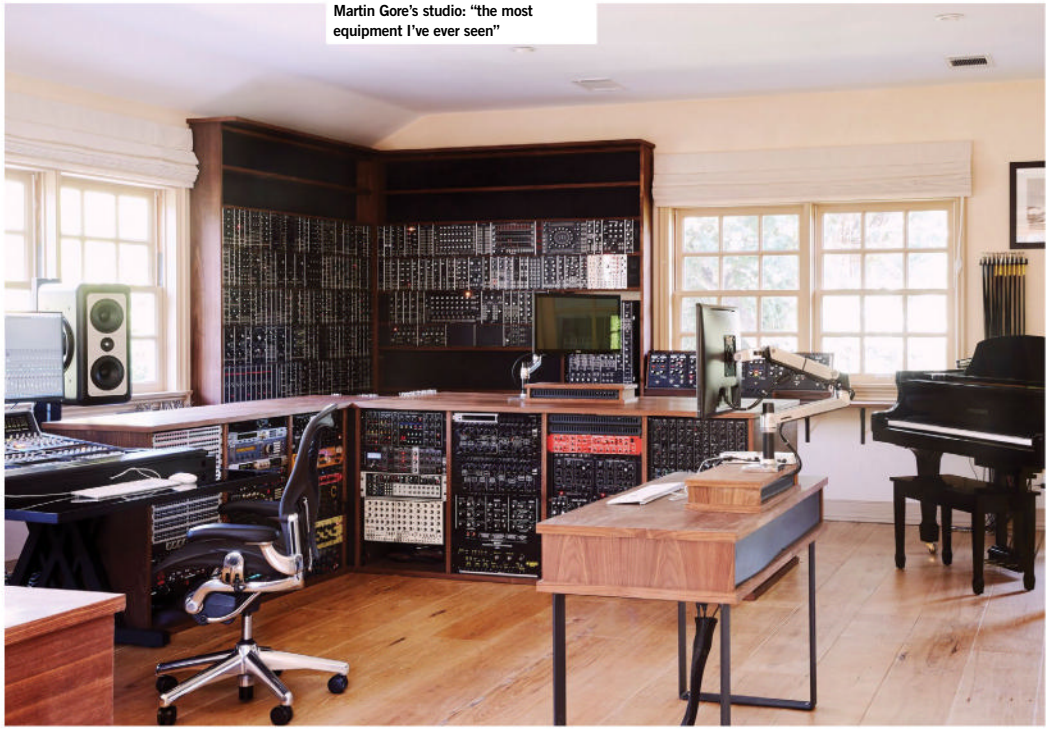
"YOU CAN HAVE A GREAT IDEA, BUT IF YOU'RE FUMBLING TO FIND A CONNECTOR, IT CAN GET LOST QUICKLY"

We're guessing there isn't a typical process as each project is different?

"There are a few key points to discover early on: what makes them [the artist or producer] tick; what do they like, not just in music or interior design, but in fashion, in paintings and photography, something that paints a picture of who they are. It might not translate into the finished design, but it's trying to make a space where somebody sits down and can feel comfortable and inspired.

"Another crucial one is workflow. One of the projects I am most proud of was where we did no acoustic work. It was all about workflow, planning out the space and designing somewhere where the artist didn't have to think too much or look for things – everything was set up so they could just capture that idea immediately. From my days of making records, [I know] you can have a great idea, but if you are fumbling about trying to find a connector or where you plug in your headphones, that great idea can get lost really quickly."





Martin Gore's studio: "the most equipment I've ever seen"

What are the most common technical issues you face?

"One is that a lot of people have a lot of gear: drum machines, synths, modules, keyboards, controllers, all over the place. How do you make space for all that? How do you use that keyboard that has been sitting on the shelf for a year? Where do you plug it in? [Without] digging through boxes trying to find the power supply. We designed a really elaborate power supply for one client who had hundreds of modules and boxes of wall warts. It was a universal power supply with a database and switches so you just selected the gear and it

The racks at a-ha's studio sit within an aptly sauna-like Scandinavian aesthetic

automatically outputs the right voltage. The other technical problem is low frequency linearity. It is a problem mostly in residential studios where the room is built and you can't change the height/width/depth ratio. Getting the bass to respond in a linear fashion is a common problem."

How did it work with Depeche Mode and their studio spaces?

"I felt really lucky and honoured to have met those guys as I was a huge Depeche fan as a kid. A friend of mine was working with Dave Gahan, the singer, so I first built a room for him in NYC, nothing huge, nothing crazy, a fairly modest place; a song-writing and vocal recording space.

"A few years after that Martin Gore reached out because he had an existing studio in California with the most equipment that I have ever seen of anybody's collection. There is the main recording room with every synth you can imagine and huge modular setups. There's another room with keyboards and another which is storage, with all kinds of old stuff that's pulled out once in a while.

"When we did that project for Martin it was all workflow, technical solutions, custom furniture, custom built Eurorack, like one entire wall is all Eurorack. It was all custom made: the cabinets, power distribution, the rails for the Eurorack, we built everything. I think there were 1,100 modules and counting! It's funny because as we were building it, every day a few more modules would show up, so we thought, 'OK, we should future-proof this', so we built in about 15% extra blank space. That was 2017 so I'm sure it's full now!

"Martin and Dave are just excellent people and visionary, of course. Being able to help them, to offer a solution [was a huge honour]. It's not like we're helping make the record but I like to think that it might help clear their path a little."

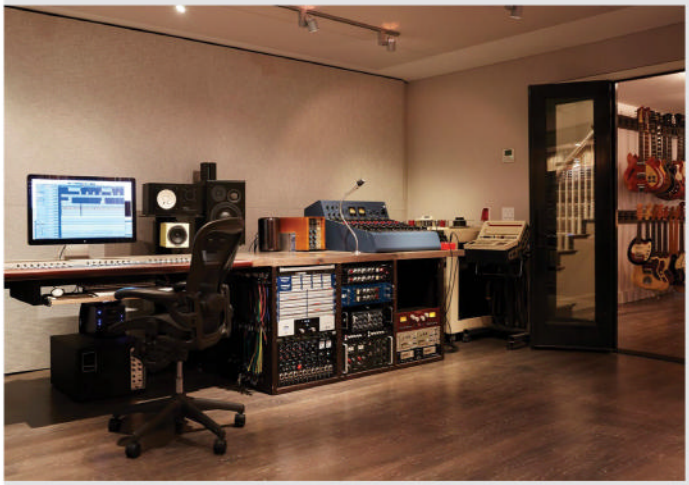
What has been your favourite project?

"The Juilliard School in Manhattan – it was a big next step for us. The school had an original studio since 1969 but not really the studio that the facility deserved so it was a gut renovation. There are a number of things we absolutely nailed, like all the work had to be done in the three months while the school was out [on summer recess].

"We did all the design, construction, and managing, but the thing I liked most about that project was that it gave us the chance to build an incredible sounding, huge live room. The students at the school, with the music they play – chamber music and jazz – need that kind of space, so the opportunity to design something with a big room and with a controlled, beautiful sonic fingerprint, that is rare these days. So we were really excited to do that." FM

WANT TO KNOW MORE?

Jim is working on a new range of cost effective studio furniture and acoustic accessories inspired by many of his Sondhus projects that will be announced in autumn. There's more info about Sondhus at **sondhus.com**



Jim Keller's top six Sondhus tips to create your own studio space on a budget

1 **"Organisation is a big one for me, just knowing where gear is. It might sound like a no brainer, but if you have a lot of gear it is essential that it is organised. That is always how I rate my studios, to be able to move quickly and be able to find things with ease."**

2 "Getting a creative space without worrying about neighbours is important, so sound isolation is key. However, it can be the hardest problem to solve and can also be expensive, so is often a large part of the cost for projects that we do. It can be tricky, but acoustic door seals are relatively inexpensive and can go a long way to not letting the sound in or out."

3 **"As far as acoustics go, it is nice to have a space with a short decay time so you can hear the music more clearly, to hear what is coming out of the speakers and not hear the room. The low end aside, the acoustics for that kind of studio are very easy. I would say forget going for low-frequency linearity in your room because you will most likely have low-frequency issues. Some bass notes will tend to disappear or some will sound 10dB hotter. Those are room modes that you can fix – we have solutions, but it can be slightly on the time-consuming side."**

4 "One option for the low end is to get a great pair of headphones and learn them really well. If you need to make a mix decision around the low-frequency range, turn your speakers down and get your headphones on and you should get to know pretty quickly where everything is sitting in the track. It's kind of like where you print the rough mix and go out in the car and listen."

5 **"High frequency absorption is super easy. You don't need a ton of it as you don't want to suck everything out of the room, but basically you treat your first reflection points first which is great for monitoring. You can get standard acoustic panels, super cheap for this and I would say to cover about 20% of the surface so that you're just controlling that decay time a little. If you focus on the first reflection point then everything will instantly sound better and you'll be able to make decisions faster."**

6 "Finally, sometimes just ignore the hard and fast rules of acoustics in favour of natural light!"

ST. VINCENT

Ahead of Annie Clark's seventh album, **Kate Puttick** learns why the studio is both her heaven and her hell, and why there's still a place for drum machines even when you've got Dave Grohl to hand…

All Born Screaming is not just any old St Vincent record. The new 10-track release finds all-round musical powerhouse and global superstar Annie Clark on fire – both creatively, and in her press pics. The album marks the first time the Texan has sat alone at the head of the table with full production credits to her name.

Of course, it's always been clear that Clark has considerable artistic chops from the moment she moved from backing band member of the Polyphonic Spree and Sufjan Stevens in their '00s heydays, up the pearly staircase of fame to top charts alongside David Byrne, stand in for Kurt Cobain in Nirvana legacy shows and pen hits for Taylor Swift alongside star producer Jack Antonoff. All while shredding masterfully as she went.

But up there in the big leagues, the noise can get loud. And putting herself back in the driving seat was an antidote for Clark.

"I think [taking on the producer role] was how I learned how to hear myself," she explains. "It was something that I'd done on all of my records but I hadn't been the main filter in the room and I know that emotionally there were places you could only find on your own."

Clark continues: "Being an artist, that's the main thing you want. If you're a singer you want people to know it's you just from one note. I wanted to have that same kind of recognisable voice as a producer. So I went all-in."

Given the chance to chat to the busy musician ahead of her full promotional schedule – as well as a chance to preview *All Born Screaming* in all of its glory – we found an artist and producer at the height of her production powers. But, also, one who was more than willing to dig deep on her modular synth "sickness", choosing between Dave Grohl and drum machines, and the importance of committing to a sound…

"IF YOU'RE A SINGER YOU WANT PEOPLE TO KNOW IT'S YOU JUST FROM ONE NOTE. I WANTED TO HAVE THAT SAME KIND OF RECOGNISABLE VOICE AS A PRODUCER. SO I WENT ALL-IN."

Studio heaven

The makings of Clark's studio journey started in her early teens with a Tascam cassette 4-track. Her cheerleaders at the time were a computer-mad stepdad and her successful jazz duo aunt and uncle (aka Tuck & Patti, who have gone on to tour with her). Her weapon of choice back then was a PC-based recording system based around Cakewalk Pro Audio accompanied by plentiful outboard gear. Clark recounts happy days singing Billie Holiday melodies and practising guitar.

Fast forward to 2022, as she began to write this new record, fresh from the promotional cycle for *Daddy's Home*, and the people she calls her "wrecking crew" of acolytes are somewhat different. To name a few, they include Welsh experimental songwriter and good friend Cate Le Bon, engineer Cian Riordan (with whom she worked on Sleater Kinney's last album) and… rock royalty, Dave Grohl. The recording settings are somewhat grander, too: Electric Lady in New York and Steve Albini's Electrical Audio in Chicago, as well as her own Compound Fracture studio in LA.

Whatever the location, it's clear that Clark believes that a studio has a sacrosanct quality. Recording, for Clark, is an art that needs to be taken seriously.

"People can do so much on their own in their bedrooms. I think that is so incredible," she tells us. "But I also think that the art of recording and the physics of doing things correctly or incorrectly, is its own thing."

She breaks off to discuss the joys of deliberately blowing up an amp, before excusing herself for 'riffing' and returning to the point at hand.

"[In that case] you're using tube distortion because you love the sound of it, and not necessarily just because you don't know what you're doing [with the amp] or you don't know how to gain stage. I think it *matters*. Not in, like, a holy way, but… It's a beautiful, amazing art, recording. Recording is the coolest. It's so fun. There's so many permutations. It's fractal."

She stops to cast around for an example. "You know, I'm looking at a mult right now. I'm looking at my patching. You could send that signal to three different places. What would happen if you did this? And what if you did that? I mean, it's just thrilling."

…and studio hell

Which brings us to our next question. Clark talks about the joy of recording. But she's also described elsewhere how the experience of recording can be a version of hell.

"The hell part is sitting with yourself without getting anywhere," she explains. "That's the tough part, just in life. Probably only 3% of the music I made over the past three years is on this record. There have been hours and hours, tapes and tapes of just jamming alone in the studio. It might be 8am and I'm, like, making post-industrial music in my sweatpants. But eventually it becomes the song, and the things that lend themselves to a statement find their way."

The muse, she explains, is a tricky bastard. "It takes a lot of finding it. I don't know how everybody works, but in my experience, it's not about having some exact idea and then, in a linear fashion, rendering that idea. You *find* it. The idea whispers to you from a corner and then you chase it and chase it. It disappears and then it reappears. Eventually, it reveals itself a little bit more."

Of all of the tracks on this album, opener *Heaven is Near* caused Clark the most grief. "I wrote it on guitar, and so you can kind of hear the jangle. I love it on guitar," she explains, "but it took a while to reveal itself."

The problem wasn't so much about a blank page, but fulfilling its potential. "I had written all the music and the melody and everything was, you know, more or less like it was a song. I knew what the chorus was, but I didn't have the verses. I kept writing and rewriting the words. I knew what it, you know, *was*. The music was doing all the work, so the words just needed to be this impression, this feeling and get out of the way.

"Then singing it was another matter, because it changed the whole song. The music was [supposed to be] carrying the weight. So if you try to over-sing it, if you try to put anything on it that doesn't feel completely true and real and beautiful

and all those things, then it just crumbles before you. So, yeah, that one, I would say, was just a delicate little flower."

Analogue witness

The empowering nature of having the space to engage in knob-twiddling at will was the rocket fuel for a lot of the songs on the new album.

"The modular world is a new world for this record," Clark explains. "As an artist you have to find new tools. Things which inspire you. For this record everything had to be about electricity and circuitry; analogue and outboard. Things that were tactile and could only happen once. Lightning in a bottle.

"Songs like *Broken Man* are based on modular synth lines that I programmed." She sings a fragment of the core riff. "That was modular. I was like, 'Hell yeah – that lights me up inside! I'm going to build a whole song around that.' Really, that was the genesis of a lot of these songs. The same thing is true production-wise. If there's a tape warble, it's because I ran it through tape and sped it up and slowed it down with my hands. Everything is very tactile, and intentionally so."

Moving away from a computer-based setup was liberating for Clark. "Plugins get tricky because you start to hear with your eyes. Some of them have flashy interfaces and they make you think they're doing more than they're actually doing."

Was the experience of working with analogue synths as satisfying as she'd hoped? "Working with actual electricity and circuitry, you have chaos," Clark says. "You get a sound and try to get the same sound again, but it's never going to be exactly what it was. Right? It's chaos! In a great way. Modular synthesis is a sickness."

A drain on the… brain? "And your pocketbook. But when it's amazing, it's *amazing*. And that's why we become junkies for it. It's really silly."

Broken beats

From its opening track, with its stripped down, bodhran-like opening thuds, drums play a significant role in shaping the distinctive sound of *All Born Screaming*. This is perhaps unsurprising, given the premium class of drumming talent Clark had at her disposal, including Dave Grohl, Josh Fresse and Warpaint's Stella Mozgawa.

As the album progresses, though, the acoustic drums give way to the synthetic pulse of a drum machine, most notably on the Prince-indebted *Big Time Nothing*. Clark rejects the premise of pitting human vs non-human rhythm makers against each other though.

"Depending on the drum machine, it has a sting to it. That's what we're looking for. That's why we love the sound of old-school MPCs – because, for one, they have a feel to them, but also because they have a sample rate and compression that does a particular, cool thing. So it has a soul."

When it came to drum production, she explains, serving the song was the be-all-and-end-all. "Sometimes that's a loop made by a drum machine, but you still have to make sure that the swing of the hi-hats is correct and that the feel is good. I like to run that through outboard effects and balance it all there and then. I'm a big fan of balancing in the machine. It's the difference between building your house on sand or building it on rocks."

That thought process informs how the rest of the track unfolds, she tells us.

"If you commit audio and say 'this is the balance of these drums' and print it, then you're building a song that is based on a sound you actually, really, truly decided upon. Instead of taking everything and kicking the can down the road; [feigns befuddled voice] 'Oh I'm not really sure if this hi-hat should be louder or softer, so I'm going to just record everything separately and then make that decision later.' It's like, 'no, just make the decision.' Be bold, commit to a sound, and then you're really building a house on rock."

Is this approach of self-producing likely to be the blueprint for all St. Vincent records from now on?

"I love collaboration and I've been lucky to work with great collaborators in my life," Clark explains. "So I would definitely do that again, just depending on the project. The difficult part about self-producing is that it's just you. There's only you to say, 'yes, that is the best rendering of this vision that I can create squashing it, without overcooking it'. That's the hard part, I would say. Not the technical stuff. It's really just growing that extra instinct within you that's like, 'yes, this is it – let's go.'"

It all comes back to, as she describes, "finding" the music. "As I make more music, I find it more mysterious, more mystical – to use a corny word. More than ever. But it's true. It's more mystical than ever." FM

WANT TO KNOW MORE?

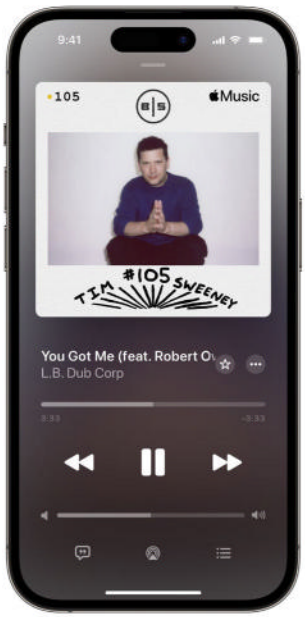
All Born Screaming is out now on Total Pleasure Records

"I'M A BIG FAN OF BALANCING IN THE MACHINE. IT'S THE DIFFERENCE BETWEEN BUILDING YOUR HOUSE ON SAND OR BUILDING IT ON ROCKS"

IN THE STUDIO WITH

Luke Slater

As the UK techno legend prepares to release his new L.B. Dub Corp album, we visit him in his gear-stuffed studio



INCLUDES VIDEO

British techno legend Luke Slater is a man of many aliases. He's probably best known for his work as Planetary Assault Systems, a moniker under which he's been releasing tough, drum-machine-focused techno since the mid-'90s. While that strain of techno is undoubtedly a cornerstone of Slater's sound, Planetary Assault Systems is only part of the story of who he is as a producer.

Slater's prolific body of work touches on ambient electronics, acid, house, psychedelic dance music and crossover electro-pop, working as aliases including The 7th Plain, Clementine and LSD, as well as under his own name.

More recently, he's been releasing music as L.B. Dub Corp, a project loosely rooted in the sounds of classic house, but one which allows Slater to experiment with elements of jazz, soul, electro and any other influences that happen to grab him in the moment.

Later this month, L.B. Dub Corp returns with new album *Saturn to Home*, a collection of largely vocal-led tracks with contributions from house legend Robert Owens, Berlin artist Miss Kittin and dub vocalist Paul St. Hilaire, as well as featuring Slater on drums – an instrument he started playing as a child but has never previously worked into his own releases.

We caught up with Slater in his enviable studio to talk about his relationship with his gear, his approach to collaboration and how he finds space to experiment.

The new L.B. Dub Corp album *Saturn to Home* is the first time you've incorporated your own drumming. Tell us about how that came about...

"It's something I've been pondering on for quite a long time, actually. But A, I didn't have the kit set up and B, there wasn't much of it left to set up anyway. It's just never been the right time to start exploring that. It's not really part of what I've been doing for a long time. Even though I've always been interested in it. There's never really been a place for it.

"The L.B. Dub Corp album, it just suited that more. There's something about real drumming; it doesn't matter how good you are at programming acoustic drums on a computer, it doesn't really quite capture the feel. It's so subtle sometimes and you can get really close with programming, but the human-ness of real drums, as someone who started out playing drums before anything else, that's really important to me. So when I started thinking about L.B. Dub Corp and what we were going to do for this album, one of the first questions was, 'should I use real drums on it?'

"My experience of recording real drums before this was pretty much zero. The last time I played drums properly I was a kid. For two months, there was this experimental period where it was just me and the kit, and a friend of mine who helped out a bit by moving mics around. We were testing all these different things. We weren't really following the rules much. We were just trying to tune the drums and put stuff on them to get something that sounded good.

"I think there's three tracks with live drums on the album and it took two months to actually end up with something that I thought was good enough. I mean, I'm not a professional drummer; I've got a feel, but I don't play the drums every day. I do what I can, but the feel is there. After two months, we had drums that I thought worked. Then I managed to get them into some kind of state where they worked as a dance track. That was the bit I was interested in – whether they could be turned into something that I could play in a club.

"I learned a lot from the process. In the end, most of the good stuff came from just having one mic, really dampening the drums and then just recording it as dry as possible. With all the processing I put on it afterwards, that seemed to be the answer. We tried a multi-track take of drums, but it just didn't really come across in the same way. So yeah, a sort of Motown-style one mic job."

The album is quite vocal-led. How did those collaborations work?

"Traditionally I've worked with vocalists before in the studio, but I'm actually now more of a fan of working remotely. I think it depends how you do it, though. I still wanted an engagement with the vocalist. On this album, it really was all about the vocals, though. For example, the track with Robert [Owens] was about me backing up his vocals with L.B. Dub Corp music, rather than taking his vocals and sampling a bit and just putting them around a dance track. I really wanted to get that across to him and give him a free rein to do what he wanted. He completely just went for it, big time.

"Each track has been different. *Saturn to Home* with Miss Kittin, that track I have to admit is pretty Bob James influenced. It's that kind of production that I was trying to get. That track just sat there for months and I couldn't find any vocals for it. I tried my own vocals on it but that didn't really work. I happened to be at a gig and Miss Kitten was there and I hadn't seen her for a while. I said, 'Look, I've got this track. It's pretty off the wall. It's not what you expect, but I think it's meant for you.' I sent her *Saturn to Home* and I think she felt really freed by the idea of doing something over a track that isn't a standard techno track, but is pretty different and quite jazzy, I suppose.

"The initial thing that each vocalist had to work with was just a kind of basis, but when they'd done their vocals I changed quite a lot around it. It wasn't like I was giving them this finished track and just saying I need a few samples on it. I actually changed stuff to fit around their vocals afterwards, so that it made sense with their vocals, rather than just laying them on top.

"There's a lot of vocal samples in the tracks too, though. There's a lot of street samples and a lot of samples that I've taken on travels. With Arnold from Eindhoven on *Only the Good Times*, I was lucky to capture him, because that's such a good message. There's also bits of street drumming that I come across. I'm always getting my phone up if there's any kind of sound on the street and it's got rhythm in it.

INCLUDES VIDEO

In the studio with Luke Slater

Interview: 10 Questions with Luke Slater

Luke Slater on processing the TR-909

ESSENTIAL PRODUCTION TIP

"I think the idea of limitation is really important, which I know seems kind of hypocritical sitting in a studio with tons of gear. It actually is the way I work, though. Limit yourself to certain things when you make anything. Whether it's one box or just one little set up, every time, really learn that and don't think you always need more. I think you can get good music out of nearly everything. Limitation in not only what's in the track, but what you're making that track with. Through that you can create a sound that's different, and that's always important. That's how things evolve and move forward. Ideas don't come from machines, ideas come from your mind, that's where it's all stored. Whatever you're using, it's just a machine. You get out what you put in."

"L.B. Dub Corp is a vessel where I can try things I don't normally do, while keeping it relative to the soul of house music. The origins of L.B. Dub are totally influenced by the origins of house. The album is part homage to that, at the same time as trying to move things forward."

Do you have certain bits of gear that you associate with different projects and aliases? Is your 909 always a go-to for Planetary Assault Systems, for example?

"No, I think that comes more into effect with live shows. With Planetary live there's always a 909. Whatever the processing or however it appears it is 909-led. But in the studio, that's not always the case. There's been Planetary Assault Systems records where the drum machine has just been a little plugin, or something done on the Elektron. It's not always 909s for PAS and 808s for L.B. Dub Corp, or anything like that. It's pretty flexi, really. When it comes to live shows though, Planetary is definitely built around the 909."

What do you think is the secret to making electronic music work live?

"The thing I've always found about live shows is that, quite rightly, I don't think people should care too much about what you're actually doing on your machines. There are some people that are intensely interested in what you're doing, and that's fine as well. But when there's a crowd, it's more important to me to try and get across something instantaneously, on the fly, of the moment, when I think of it. That kind of on the spot action is always the aim for me. The way I've done that is by simplifying what I need to do as much as possible. Overcomplicating things doesn't really work for me – it can work for some people, I don't think that is a general philosophy of having a successful live show. For me, I don't like to veer too much to the machines and not always totally with the crowd. There's a kind of midway point with technology when it comes to live shows. That's a comfortable point for me. I don't want to get too bogged down in stuff. I want to be present.

"The only thing I've ever thought was the best tip for live shows is always to have some kind of backup in case all the machines fail. I've been to a few gigs where there's been someone on before me doing a live show and, you know, it all goes down. It might go down for like 20 seconds, but it seems like two hours. Having a backup is a really secure way to approach it."

> "THE NEW ALBUM IS PART HOMAGE TO THE ORIGINS OF HOUSE MUSIC, AT THE SAME TIME AS TRYING TO MOVE THINGS FORWARD"

We've noticed you've several different DAWs running in your studio. What are you using each for?

"I was using Logic, originally, back when there was only Logic or Cubase at the time. Logic was the first DAW I used with audio. Then Ableton came along and pretty much took over the whole creative process of what I do, because it was so quick at looping and stacking up things very, very quickly.

"Then Bitwig was introduced and I think that's great, too. It's Live-esque, but some of the interesting routings you can do with synths and some of the things they're building into it are more extensive than Live and quite interesting. I've found it really interesting for experimenting with sound.

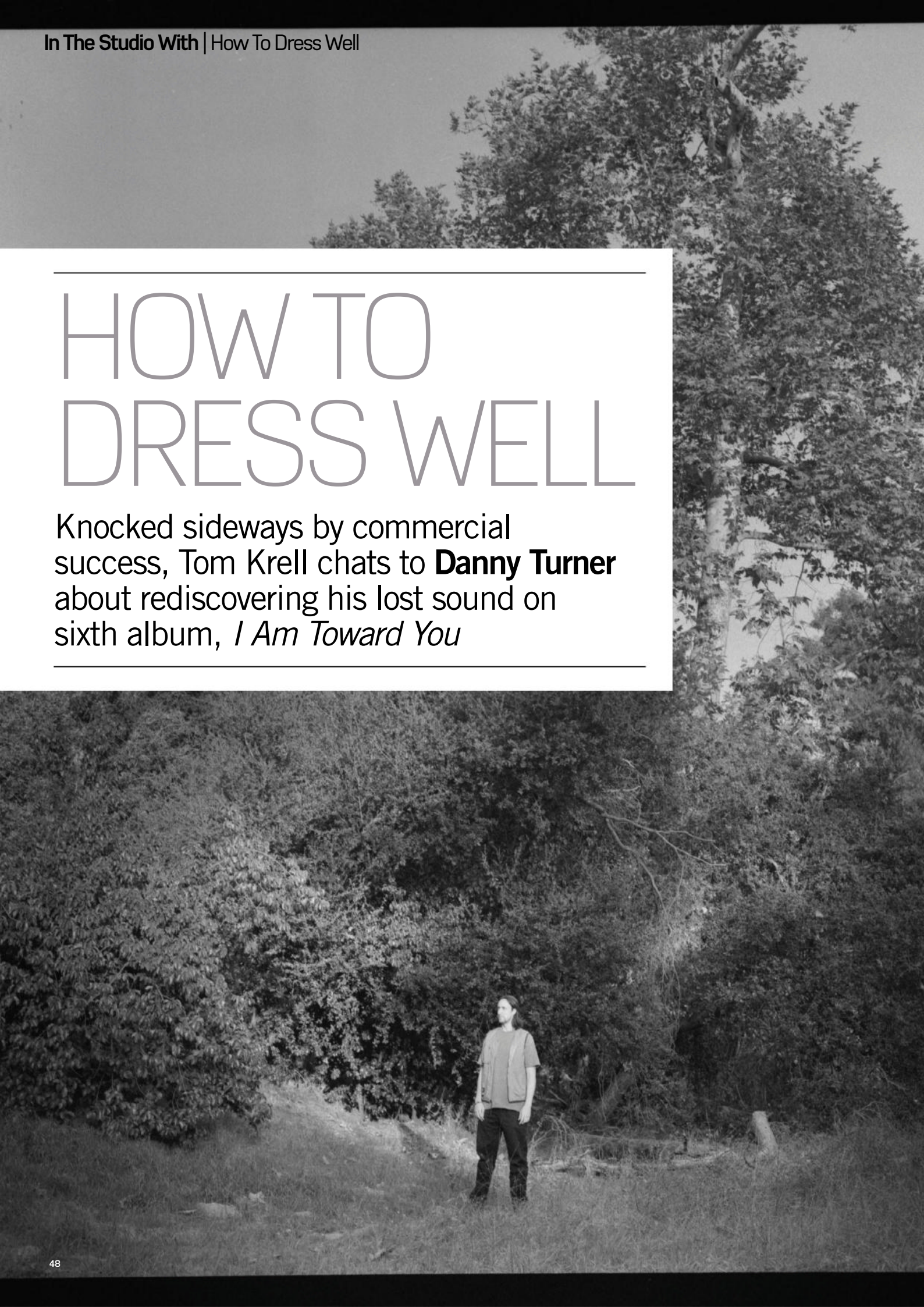
"I've ended up with a three-DAW situation. Sometimes they're all literally synced up – so Logic could be synced to Ableton, and I might have Bitwig synced up as well. And there might be another machine synced up to all that… You might think that that's quite confusing, but it works quite simply because Logic, at this point, really gets used as a kind of stem recorder. A lot of tracks end up in Logic to be mixed. For a live show, I only ever use Ableton, just because it's really reliable." FM

WANT TO KNOW MORE?

Saturn to Home by L.B Dub Corp is out May 24 via Dekmantel **https://lbdubcorp.bandcamp.com/album/saturn-to-home**

HOW TO DRESS WELL

Knocked sideways by commercial success, Tom Krell chats to **Danny Turner** about rediscovering his lost sound on sixth album, *I Am Toward You*



Hailing from Boulder, Colorado, ethereal songwriter Tom Krell has experienced all sides of the commercial pop terrain. After posting a string of anonymous digital EPs in 2009, critics picked up on his stunning falsetto vocal and melodic, evocative ambience of his debut album, *Love Remains*. Signing to Domino imprint Weird World Records, Krell's career took an immediate upward trajectory, with dreamy electro-acoustic pop albums *Total Loss* (2012) and *What Is This Heart?* (2014) achieving significant commercial success, dragging Krell into label boardrooms where it ultimately became almost impossible to fully control his artistic direction.

By 2018, How to Dress Well had toured in almost every corner of the globe, albeit rarely staying anywhere for more than 24 hours, and by the time he'd released his fifth album, *The Anteroom*, Krell had performed 150 solo shows in two years, leaving him exhausted. The follow up, *I Am Toward You*, has been four years in the making – a period during which Krell reoriented his approach to music-making through meditation and the use of psychedelic medicines. Free of the cynicism residing on some of his earlier material, *I Am Toward You* is Krell's most poetic album to date, combining dense guitar distortions, healing synths and meaningful lyrical observations that transcend modern pop tropes.

Your albums have never been just a collection of songs but designed to be more experiential. What set you on this path?

"Initially, my music *was* very experiential, almost performing a virtual/spiritual function before I started to think about songwriting as a product. The first record, *Love Remains*, was in that world of experience over commodity, but then I needed to start touring and found myself having to include a couple of big songs on every album, which is when records like *What Is This Heart?* and *Care* started to become more song-driven. These days, people have short attention spans and don't have the bandwidth for an artist with a long career, so my fifth record, *The Anteroom*, was a really intense return to that experiential method or approach, whereas *I Am Toward You* is more in the middle. There are definitely songs on the record, but a lot of care has been put into their micro arrangement and the sonic details are overwhelming. The song *No Light* could be analysed as a pop song, but its sonic characteristics are so intense that it's more like listening to how much distortion you can put into a beautiful sound without it breaking down."

> "I FEEL LIKE A BASTARD FOR SAYING THIS, BUT I'VE NEVER HAD WRITER'S BLOCK. IF ANYTHING, DESPITE TRYING, I LITERALLY CAN'T MAKE THE SAME RECORD TWICE"

What makes you think people are fatigued with artists who have longevity, as opposed to those who simply put out too many releases?

"One of the things I think about a lot is how extremely lucky I am to have had such a long career. This is the first record of the second decade, but I've noticed that most artists in the 21st century only get to two or three albums. Most people in America and Europe stop listening to new music at college or university – what they liked then is what they'll listen to for the rest of their lives. Those are their songs from the time they had and then they enter into this recirculating nostalgia. Now, because of 'streaming brain', people don't even listen to new music after high school. I play a lot of pick-up basketball, which is a way to encounter random people in life, and a few of them said to me, whoa dude, we were so into your songs in college. So I think with today's listening and lifestyle habits people do tire. I mean, personally, I'm a mega fan of The Durutti Column, but there are still albums I've only listened to once."

Even though some of your tracks could be considered 'pop', they don't have a traditional verse/chorus structure. At the peak of your success, were you pressurised to record 'hits' or create something that could go viral?

"I felt an enormous pressure to do that. My third record, *What Is This Heart?* was probably my most well-received commercially. We got a lot of syncs on TV shows and commercials and sold a lot of concert tickets. At one point, my manager sat me down with label people and said, for the next record you should swing for the pop fences. I felt that I'd already done that, but they said, no, we gotta go bigger and bring in additional songwriters. I was thinking, 'oh fuck, I don't wanna do that'. They made some recommendations for a big pop producer and I agreed to make that part of the process, but once you give them an inch they take a mile. I wanted my friend to mix the record, but they wanted some Grammy-award-winning guy to do it and when you're working with so-called 'professional' music people, they don't care about ideas, they care about a song having a hook within the first 15 seconds."

Did you cave in to that pressure at all?

"I don't think people really understand how much money you earn when you're supposedly a successful indie artist – it's not enough to live on in the city you want to live in or raise a family, so I needed to figure out how to earn more money if I was going to do this as my profession for the rest of my life. I wasn't some kind of nepo baby who could afford to make abstract art my whole life and chill in a condo, so I did feel a lot of pressure at that moment and we made a lot of cool-sounding stuff, but we also ruined a lot of songs that I thought might have been really good otherwise. The record, *Care,* doesn't have a lot of me in it, which is fine, but so much money was put into advertising it that younger people now feel that it's representative of my sound. It's a complicated business for sure."

While recording EPs and albums, you studied for a philosophy doctorate. Was that a purely recreational activity or a back-up profession?

"When I was 17, I decided that I wanted to be a professor of philosophy because I fell in love with the communication of abstract ideas. I went to college and grad school, finished a master's degree in philosophy and went abroad for a few years translating philosophy books from German to English. It was

while I was in Germany that I started making music and I released *Love Remains* in 2010 while starting a PhD programme back in Chicago. At that point, realising that I wanted to make music completely changed my life, but nowadays universities are maybe the only cultural milieu suffering a worse fate than the music industry. I have friends pursuing professorships who are applying to 200 schools and don't hear back from any of them; the best job they can get is in the middle of Kansas teaching 50 hours a week."

Does that philosophical correlation extend deeply into your music?

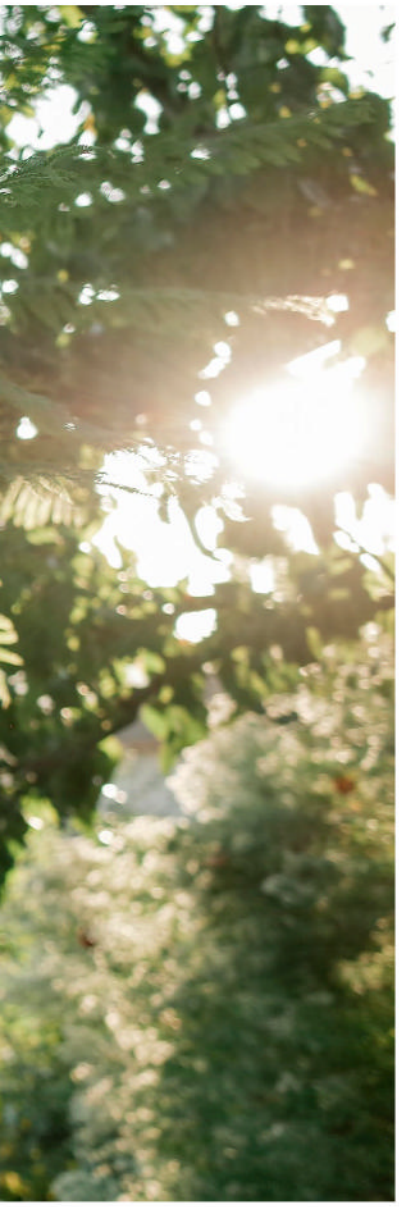
"Oh yeah. My mind is pretty weird and all the philosophical work I've done has shaped the way I see the world and think. Looking at my library right now I can see how all of this work has called out to me in the same way that music has driven my whole life. I'm the unifying element, but I feel that the music tends to be more poetic than philosophical."

The creation of *I Am Toward You* came about following a period of 'occult meditation' that you embarked upon after years of intense touring. Would you describe that as being a process of recovery, rather than some kind of creative preparation?

"I've done the two-week meditation thing a bunch of times now. You put your mind to extreme tests when reading this type of thing and meditation is an extension of that. I remember feeling like a bastard for saying this, but I've never had writer's block.

"If anything, one of the challenges I've faced is that, despite trying, I literally can't make the same record twice, which makes it hard for music journalists to analyse me and especially hard for Spotify playlisters to playlist me. I'm basically making the work that I'm called to make at any given juncture, so while looking back I can understand how I arrived at where I am today, I've never made a record that sounds like *I Am Toward You* or is in this genre.

"Regarding the touring, the problem I have is that it started to become quite artless. I'd spent all this time building up a beautiful visual show, but with all the travelling it started to become a chore. I've basically been everywhere in the world, but only for between six to 25 hours."



The record took four years to make. Did the songs flow with your changing mood or did you focus on capturing something specific from the start?

"I don't think my records are psychological in that way. Say you want to make a beautiful marble sculpture of a gladiator with one foot off the ground ready to leap. If you're working on it 200 days on a row and on day 201 you wake up and feel a little depressed, that doesn't mean the sculpture became depressing on that day. It has a material momentum and inertia, and songs are like that too. Part of the reason I like to make this music is that some of the songs have samples I made in 2011 and if you listen to that sample it's not subject to interpretation, it's there because it has very concrete sonic features and cadence. Making the songs is about discovering what the songs are rather than thinking about how I feel."

How is your studio environment set up to bring the best out of you creatively?

"The content of my studio changes all the time. Right now, I'm obviously working on my next music, but for some reason I've moved completely to what I would describe as an old-school setup consisting of a loop pedal, a guitar and a couple of effects pedals. I've got this unbelievable tool, which is a quarter-inch cable attached to a lightning bolt adapter, so I can play anything off of my phone into my loop pedal. It's a really rudimentary way of sampling, but that's what I'm really into right now – getting a loop going and doing these long-form jams where I play a song. A big thing for me that started on my last record *The Anteroom* and really came out in this one is that I'm getting pretty allergic to making music in Ableton. If you play any song to me that came out in 2024 I can tell you what DAW it was made on and the way that workflow creates a sonic grammar is something that's started to really frustrate me."

"I'M GETTING ALLERGIC TO MAKING MUSIC IN ABLETON. PLAY A SONG TO ME THAT CAME OUT IN 2024, I CAN TELL YOU THE DAW IT WAS MADE ON"

Can you go deeper into what specifically frustrates you?

"For me, Ableton creates the illusion of having a very 'innovative' sonic grammar, yet everybody can do it. It's something that I hear in a lot of our so-called beloved experimental artists these days, but it's not actually experimental – it's just Ableton, so I'm trying to figure out how to do experimentation that doesn't lean on the easy tricks of a DAW that are meant to make stuff sound like the *Ali G* theme song – you know, the sonic stuff where all his clothes are flying onto his body. So much electronic music sounds like that, but if you listen to early jungle music, for example, it now sounds really experimental because they used these Tascams that could only do one thing and artists were like, how do we get this thing to make something innovative?"

Is Ableton different to any other technology that becomes very popular and, as a result, imprints itself on music-making culture?

"It could apply to any technology or instrument, but you can't create a digital platform without minimally structuring and guiding the decisions that can and even should be made on that platform. Even if they try to make a DAW a neutral workstation, the way it's colour coded incentivises certain melodies and rhythms and the kinds of technologies they prioritise in drop-down menus and people they hire as influencers mean it becomes a culture rather than a tool. Obviously, the guitar structures people's behaviours too – there's six strings, x number of frets and you can only play chords by doing certain things, but it's so much easier to revolt on a simple instrument than it is to truly revolt on a digital platform. That's just a feature of digital reality – in order to erect usable worlds you have to make decisions that have consequences."

Is it as much down to people's lack of innovation than the product they're using?

"There are two ways to make amazing music, one is to be a naïve, green first timer and not know how to use the tool and therefore do something totally fucking weird. And then there's the huge middle section of the curve who use the tool as it's originally intended in more or less detail. Then you have the 1% who personally hacked the Max/MSP plugin to create insane generative music. The same could apply to guitar – some people don't know the chords, are playing with one finger and technically amazing and others play extremely detailed, beautiful fingerpicking guitar work. Meanwhile, everyone in the middle is playing the same power chords as everybody else."

You have to tell us about the track *No Light*, which we read is based on a rather horrific-sounding incident that you had in an alleyway during the pandemic?

"I had a lot of horrific incidents in that alley during the pandemic [laughs]. One day the dumpster caught fire and I had to run out and pull this flaming dumpster away to keep my house from burning down. It was so weird being in LA during the pandemic because life didn't change that much as there's no public transit or spaces and we're always in stay-at-home mode in many ways. So I started to pursue that and built out the track *No Light*, which felt like a poppy song but not a poppy thing to sing. While working on the song I heard this horrific sound outside and saw this person crawling across the ground between a car and the wall. I thought, oh god, so I went outside and asked if everything was okay, but it was a pandemic so people were like, not well. This person had some interesting things to say about pig masks, the coming of Christ and the end of the world. I tried to take what they said and put a little bit of it into the song. Pentecost as Eschaton was my translation – in addition to seemingly being haunted by a pig mask."

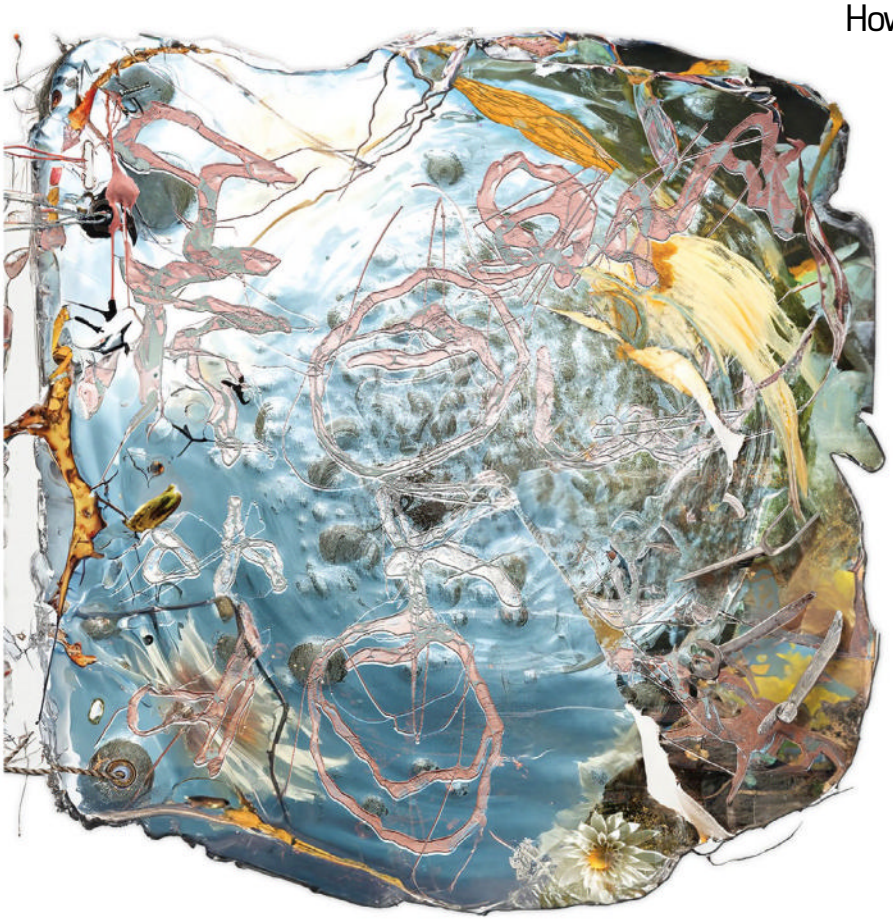
Field recordings tend to play a prominent role in your songs. Why do you use them in the way that you do?

"I was doing field recordings long before I knew it as a term of art and don't have the same hang ups about fidelity and the necessary preconditions of recording. For example, if I hear someone in the apartment next door banging their dishes, I think of it creating a cool little high-frequency percussive thing. On the track *The Only True Joy on Earth*, there's a shaker sound that's actually my dog jingling his tags. Basically, I'm not a musician who thinks it might sound cool to have a D moving into a suspended chord. Every single recording has its own spatiotemporal signature, but as musicians we take enormous pains to eliminate that specificity from our recordings, building elaborate, weird rooms and equipment to remove the signatures, but I think those signatures sound cool. I like to hear the way the microphone is reacting, the shape of the room or the physical body in the voice, like the lips, tongue, throat and nasal cavity, and the one thing I do like is really good singing – I'm obsessed with the human voice sounding beautiful."

Does that mean you're against Auto-Tune or anything that will clean up a vocal?

"Well Auto-Tune's almost become a cultural signature. When people first started using amplification and the earliest forms of distortion, people thought it sounded insane, so we got to a point in human history where people would distort every single guitar chord to sound cool. But these things ebb and flow, eventually the coolest shit was not to distort the guitar at all and that line of transgression is always shifting as culture and history are shifting. When I first made music singing in a beautiful R&B-style voice, people thought I was an idiot, but now you have to sing beautifully otherwise you don't count. Bad singing used to be a vibe, but it's very rare now that you'll find an indie band with a bad singer.

"THE ONE THING I DO LIKE IS REALLY GOOD SINGING – I'M OBSESSED WITH THE HUMAN VOICE SOUNDING BEAUTIFUL"



"IF YOU WANT A FOUNDATION YOU HAVE TO REACT TO, GET A DRUMMER WHO CAN'T KEEP TO THE RHYTHM"

Drumming is another great example – I don't know any records with bad drummers and we need more bad drummers. If you want to talk about creating a foundation that you really have to react to, then get somebody who can't keep to the rhythm – that's how you find out how good a guitar player really is."

What can you tell us about the track *Crypt Sustain*, which seems to provocatively balance harsh distortion with ambient pop tropes?

"That song is definitely an exercise in contrast. The original demo had nothing in the second verse other than vocals, then I added the guitar because I realised the song was very inspired by the track *One* by Metallica. It's a metal song that's about the emotional expressive reality of metal music, which is a perfect example of the most brutal music you can make. Metal is so physical, militaristic and violent, but it's always just about a sad dude who can't be vulnerable and bringing that aspect into a song was something I wanted to do."

Is your method for achieving distortion based around guitar pedals or using in-the-box effects?

"I'm trying to think if I even played a guitar on a big amp on the track *Crypt Sustain*. I think it was all line-in guitar and using the most shredded, distorted thing that I could possibly find on the computer, which ended up being MIDI notes playing a softsynth. The distorted stuff at the end of *No Light*, where the track is almost falling apart, is pretty much in-the-box and some hardware pedals, but no conventional rock distortion techniques."

***Nothingprayer* is another track that seems quite polarised – in this case, angelic choral vocals offset by layers of guitar distortion. How did you work with the various contributors to build the song?**

"All of the vocals on that song, including the little high-pitched rapping sound, came from me. There's a really amazing solo acoustic guitar lick that comes in about halfway through that was played by Aaron Charles Read, the artist Anenon contributed woodwinds and some saxophone, and there's another player providing hammer dulcimer in the middle section. What's interesting is that the song was initially going to be an interlude but I loved playing around with Aaron's lead acoustic guitar melody, which got stuck in my head for days and became the foundation of the whole piece."

***The Only True Joy on Earth* sounds like a sermon that's being delivered in a huge temple, in the midst of oceans of reverb…**

"It was recorded in my apartment and, again, is all based on experimentation and manipulation. At the beginning, I used a couple of chopped up samples, but I was initially singing that mantra over another song and felt I should probably do something like that myself. I took the lyric from the Christian mystic Thomas Merton's book called *New Seeds of Contemplation*. I got into that book because I was thinking about the idea of nothing prayer… a prayer that's not a request but a truly indeterminate contemplation of the absolute and I found that very profound and poetic."

Finally, does the cute drum pattern that's heard on the closing track *A Secret within the Voice* come from the Roland CR-78?

"No. It was actually made on an early Alesis HR-16 drum machine, but the name of the sample is called something like Roland Poland. A friend of mine had this drum machine that I used for a week in 2018 and the loop actually came from that. I'd have to look into it, but if I was to place a bet I'd say that the sample on the Alesis is a dupe of the CR-78. Looking at the stuff artists made using the CR-78, this loop basically has the same sound and that's why I liked it too." FM

WANT TO KNOW MORE?

How to Dress Well's new album *I Am Toward You* is out May 10 on Sargent House. For more information, visit **howtodresswellmusic.bandcamp.com**

Simple music theory for electronic producers

Get a grip on the notes in your piano roll and start creating more meaningful music

INCLUDES AUDIO

Music theory is a hot topic of debate amongst modern producers because it's arguably not as integral to music production as it once was. However, it definitely still holds a rightful place and can only add improvements and efficiency to any musician's workflow, should they take the time to learn it. For example, investing time into understanding how musical scales function and why each note in a scale works in relation to one another can better equip you to compose effective melodies and chord progressions.

There are parts of music theory that might seem completely insignificant to most present-day virtuosos, like being able to write and read sheet music, but there are certain laws of the theory that must be followed if you want to write any kind of harmonious music, whether you like it or not. Even those who pride themselves on expressing how entirely unnecessary music theory is understand what a tempo is and will intuitively understand when something is and isn't in-key.

We previously mentioned musical scales, and this will be the foundational building block of this article's contents because musical scales are the fundamental piece of music theory that allow us to write and perform music in a sensible manner. In Western music theory, we primarily use what's called heptatonic scales: scales consisting of seven musical notes at a time. These scales can all be derived from the Western 12-tone-equal-temperament octave system (ie the 12 notes we all know).

You may be familiar with the term 'octave'. When you look at a Western musical keyboard or piano, you'll see the same 12-note pattern repeating over the span of the interface – the pattern is noticeable by following the black keys **[Fig.1]**. Note that the black keys go from two equally spaced intervals to three over and over. If you count the amount of white keys in addition to the five black keys in each pattern, you get 12 notes: making a single octave.

Each musical scale in Western music theory can be derived from these 12 notes and the two most

predominant scales are the "diatonic" major and minor scales, which can be formed from any of the keys out of the 12 octave notes. In a scale, the starting note will determine the root note of the scale. The key also determines which seven out of 12 notes will be in-key when forming melodies and chord progressions in that given key/scale.

The major and minor scales are determined by their respective pattern of notes. This pattern dictates which successive notes can be played in that scale. The major scale 'formula' is W-W-H-W-W-W-H and the minor is W-H-W-W-H-W-W, with each W representing a whole interval and each H representing a half interval. Each successive key on a keyboard is a semitone (half) difference in pitch, so when you need to move a whole interval, you skip a key.

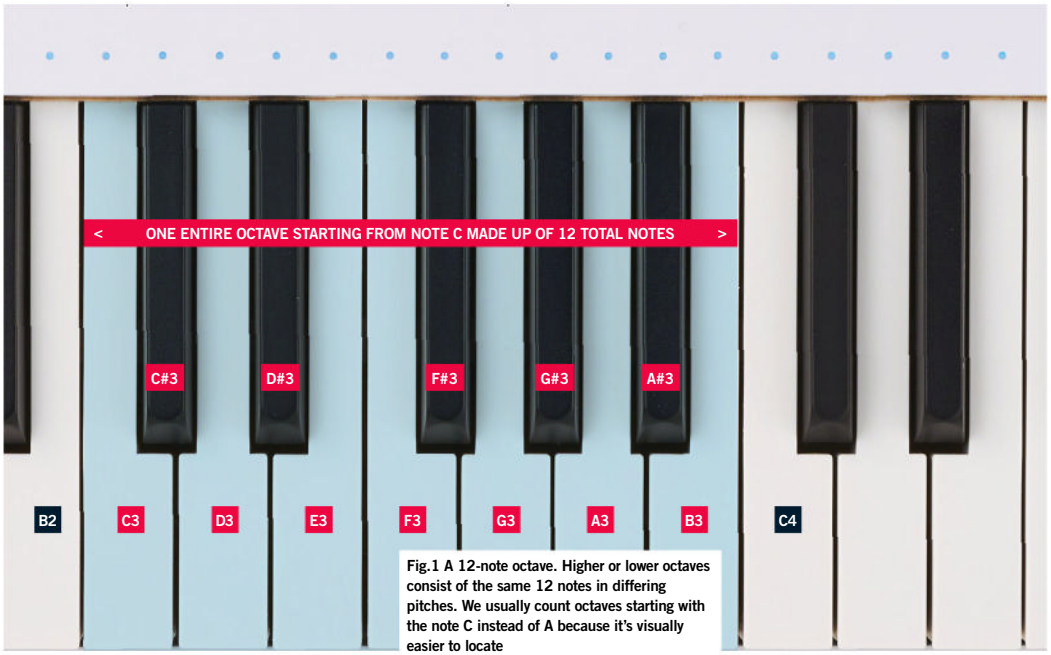
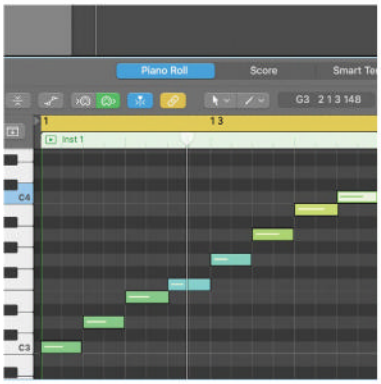
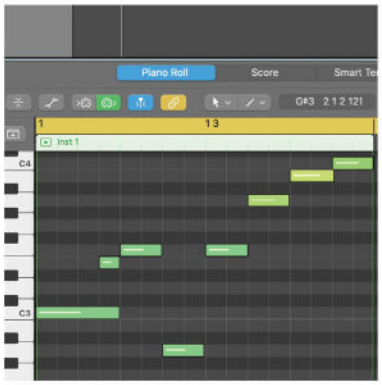


Fig.1 A 12-note octave. Higher or lower octaves consist of the same 12 notes in differing pitches. We usually count octaves starting with the note C instead of A because it's visually easier to locate

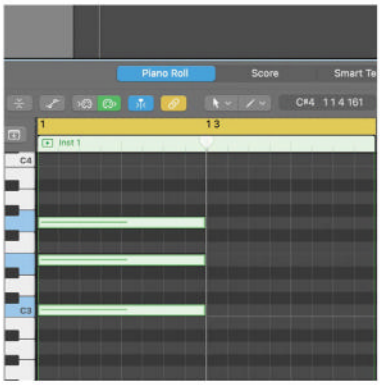
Building basic scales and triads



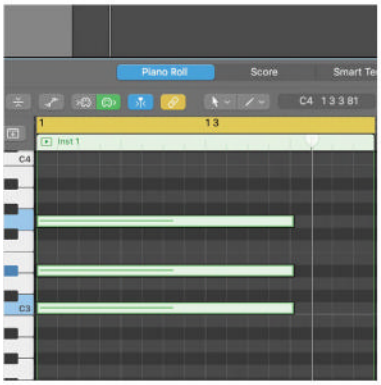
1 Let's use the C Major key. Starting on the root note (C) and following the major formula, note that no black keys appear. This makes C Major the easiest scale to learn. In ascending order, play each white key from C to C, left to right in any octave.



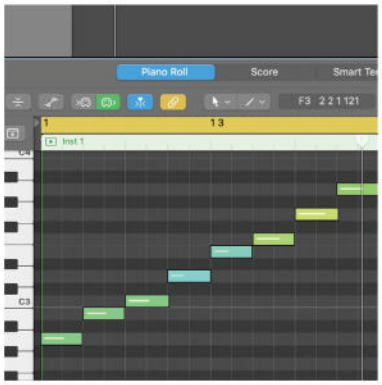
2 You can now make an in-key melody in C Major by using any of these same keys in sequence. You can also place notes of the same keys in higher or lower octaves. Know a tune in C major? These notes should sound good when played along with it.



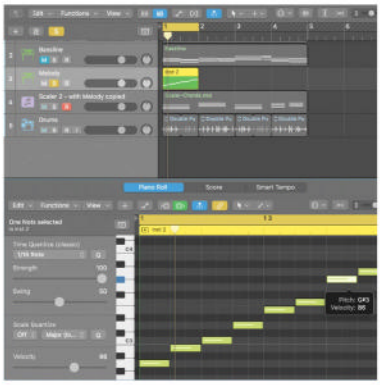
3 Now, let's build a chord. We can build a basic triad chord by playing the first, third and fifth note in the scale at once. In this case, C, E, and G. This interval pattern of using the first, third and fifth note forms a triad chord out of any scale.



4 Now for C Minor. Using the minor formula of W-H-W-W-H-W-W, starting from C, you'll have three sharp (black) keys to use (C D Eb F G Ab Bb C). You can now make a triad chord in C Minor by playing the first, third and fifth notes in the scale.

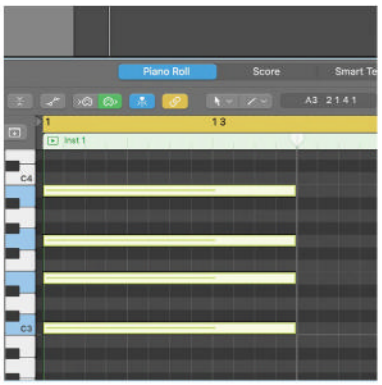


5 The minor scale sounds melancholic next to the major scale. Every major scale has a relative minor scale made from the same keys. The only difference is the root note. A Minor is the relative minor to C Major.

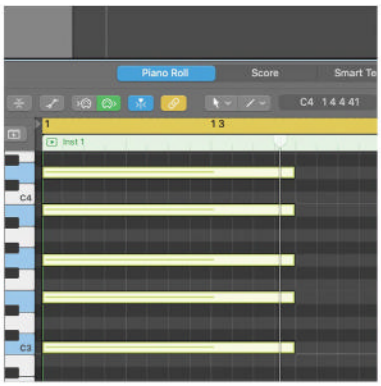


6 You can experiment with different scale types by looking them up online. For instance we can play harmonic minor scale by using a slightly different formula and raising the seventh note by one semitone.

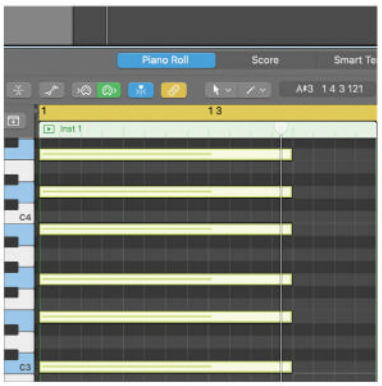
Adding extensions to chords



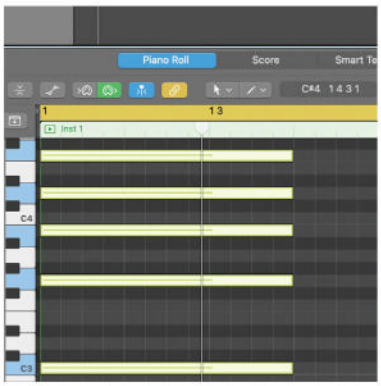
1 Let's dive deeper into chords with a look at chord extensions. We can build upon the C Major triad chord in our previous tutorial by adding additional notes from the scale. You can add a seventh to the end of the first, third, fifth formula (C-E-G) to create an extended seventh chord made from four total notes (C-E-G-B).



2 What happens when we add a ninth to the formula? Can we add a ninth when the scale only consists of seven notes? We can, by reaching into the next octave. If we add a fifth key at the ninth interval to our C Major chord, we add a D, which is technically C Major's second note. The 'C Major Ninth' chord is (C-E-G-B-D).



3 By borrowing notes from other octaves, we unlock a wide range of combinations to add different flavours to your chords. Add notes from the higher octave, such as the 11th and 13th intervaled notes (F and A) and they'll still be in-key. Try that now with the C Major chord. You can add both, or the single 11th.



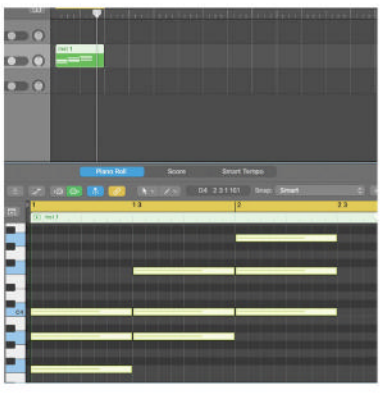
4 Sometimes too many notes can sound cluttered. You can experiment with removing certain notes from the sequence, like the third in your base triad. Technically these chords are not extended chords because an extension requires all previous intervals included. Try removing your chord's third (base triad's middle key), whilst keeping the ninth and eleventh.

VOICE LEADING – KEEPING CHORDS SMOOTH

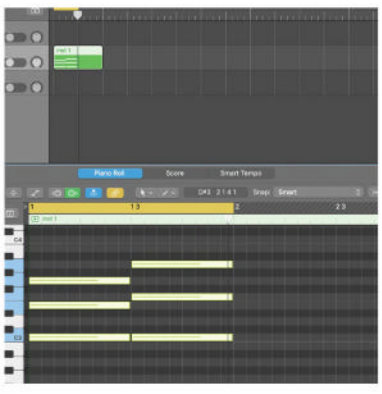
Chord inversions allow us to shift the order of keys from any given chord combination and play it in different ways. For example, an A Minor triad consists of the keys A, C, and E. But you can also play this chord by rearranging the order of the notes. You can play it as C, E, and A, or E, A, and C. Even though the order is different, the chord's identity remains in place.

With chord inversions, we can keep chords contained in a single octave, which can lead to more complementary chord progressions for our melodies. If we wanted to play an A Minor triad and keep it in the same octave as a previous chord, we may need to change the note order to make it fit, because if the C is the last note in sequence, it might fall into a higher octave. Chord voicing is when you purposefully take a successive key in a chord and play it in another octave.

Chord inversions and voice leading



1 Each chord has a number of inversions. This goes for basic triads, as well as extended chords. Let's use the F Major triad to demonstrate chord inversion. The F Major triad is made from the keys F, A, and C. Try playing it as C, F, and A, or A, C, and F.



2 Chord inversions are great for keeping chord progressions in one octave. With two triad chords of C Major and F Major in succession, the F naturally breaches the next octave. An inverted F Major triad brings higher notes back into the same octave.

3 Via chord voicing, we can play different notes from any chord combo outside of the original octave. Let's add a seventh extension to a basic F Maj triad (the seventh on E), an octave lower. We've placed it on the E directly before our root note.

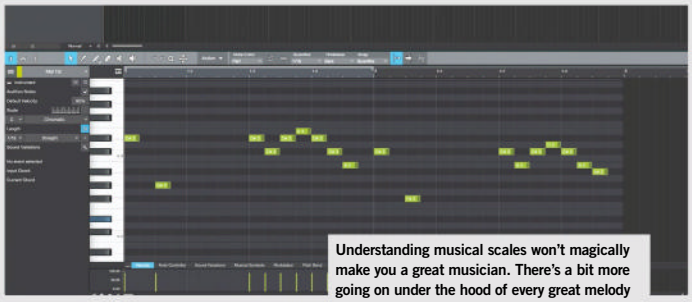
Coming up with basslines and melodies

Now that we have some knowledge of how scales and chords work, we have creative freedom to write some melodies and basslines in any given scale. However, there's an art to writing melodies and basslines in ways that make them sound musical to the ear and work in harmony with each other.

For instance, you could place a bunch of random in-key notes into your MIDI sequence – but that doesn't mean that they're going to automatically sound great. The same thing can be said for writing a bassline. So what is it, in exact terms, that makes for a good melody and bassline?

It might all come down to rhythm and groove. When breaking down a good piece of music, you'll notice patterns in the melodic structure that can give you clues. The same can be said for the bassline. For instance, good melodies tend to make use of certain repeated notes, as well as diversifying different note lengths per beat and measure. There's a combined element of predictability and unpredictability.

A good bassline groove plays off of the rhythm created by the main melody, and usually doesn't have as much diversity. You can think of it as the foundation of the composition. When learning to play musical pieces on piano, you'll find that, usually, the left hand (in charge of playing the lower octaves – bass) has much less moving around to do than the right hand (controlling the higher notes and main melody). You'll also have perhaps noticed that the bassline often follows the starting note on each beat of the melody.



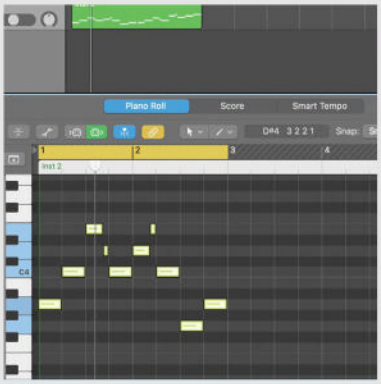
Understanding musical scales won't magically make you a great musician. There's a bit more going on under the hood of every great melody

Coming up with basslines and melodies

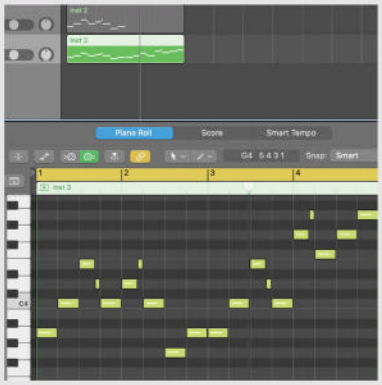
1 Let's compose a quick musical loop in A Minor, starting with the bassline. Set your DAW to play for four bars length. Then using your Piano Roll, lay a simple bassline going back and forth from A to F on each bar (a full measure of four beats).

2 This sounds pretty basic, but using our knowledge of chords, we can turn our bassline into a chord progression to spice it up. Try adding the third and fifth notes to turn each bar length into a triad chord. A groove is starting to form.

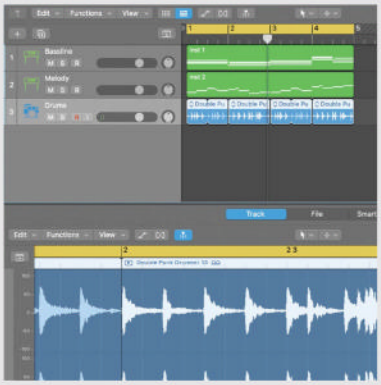
3 The progression is still quite basic. Let's try switching the third chord to a G Major to add variety. You could also change your final chord, and split it into two. Perhaps throw in a chord inversion. What we've learned will build variety.



4 At a higher octave, let's build a melody. We should start our melody on the same note as the bassline. Typically, the start note is the root note of your track's key. Add a melody across the first two bars, varying pitches and note lengths for interest.

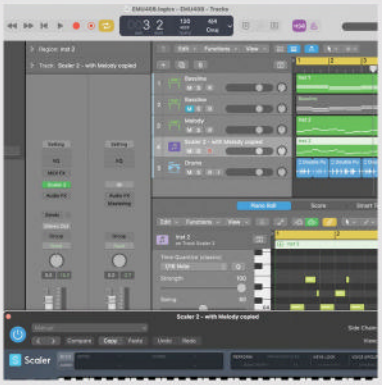


5 Paste your two-bar loop to the full four bars. Make a few alterations to the second half to create variety. Keep an element of repetition in your melody, whether regularly switching to the same note, or creating a rhythmic pattern.



6 You now have a solid four-bar melody and bassline. Build further by moving melodic notes to different octaves, adding extensions to chords, or extending your loop to eight bars. When happy, add drums to bring it to life.

Building a progression with Scaler 2.9



1 We can use Scaler 2 to build chord progressions that are true to music theory. First, if it's a ready-made project, Scaler can detect the composition's key. The fastest way to detect the key of a MIDI sequence in Scaler using Logic is to copy your MIDI pattern to a separate track with Scaler open.

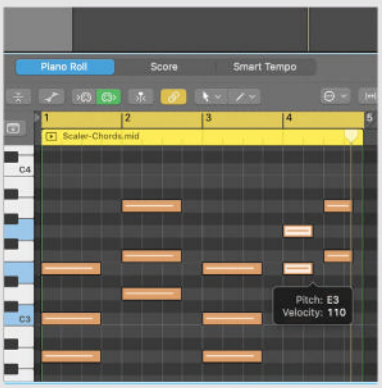
2 Now set the Source (SRC) to MIDI, arm the Record button, and the MIDI Detect button, and press play until the sequence has finished. You'll then see each note appear in order on the Scaler interface with the detected scales listed below. Our Scaler has recognised our melody as A Minor, which is correct.

3 Scaler lists multiple detected keys, as sometimes the inputted melody or chord progression is built from only a few notes, not a full scale. It lists detected scales in the most probable order so you can trial them. Having analysed your scale, you can access its seven chords in panel B.

4 Use Panel B dropdown menus to filter chord types. The first (left-hand side) drop-down menu filters between all basic triads, as well as extensions. Clicking on any chord, you'll see the corresponding notes on the Scaler keyboard. Scaler 2 also has numerous changeable piano presets to preview audio.

5 If you want to construct a chord progression inside of Scaler 2, you can use Panel C to place chords on each half measure of music. The tempo will be automatically set to your DAW BPM. Then, you can use the right-hand side Drag button to drop the data onto a track in your DAW.

6 You can use the second and third drop-down menus on Panel B to explore a range of chord voicing options. Switching between the menus gives you the chance to drag and drop different chord variations onto your Panel C sequence. You can have up to seven patterns loaded at a time and save them.



7 Once you've dragged a MIDI pattern into your DAW, you can make alterations. Because Scaler only allows for a chord placed per half measure, you'll need to change chord lengths manually. You can also assign your MIDI chord progression to any desired instrument track within your DAW.

8 If you're up for it, you can also switch to the modulation tab, which opens a window with suggested modulation pathways to switch keys. You can use the internal circle of fifths as a guide as well, although we haven't covered that today. That's some recommended further reading for you!

PRO TIP

Music theory plugins like Scaler can seriously boost the musical sophistication of your ideas, and help you to pick up or cement music theory knowledge along the way. We've listed Scaler with other music theory plugins on the next page. Although these plugins often require time investment to get them working right – as opposed to the time investment of learning the theory – many producers find learning 'in-DAWs' a lot more palatable.

THREE OF THE BEST

Plugin Boutique Scaler 2.9 £59

1 It's the music theory assistant that has your back when composing chord progressions and detecting scales. If you're learning, there's a wide array of features to get to grips on music theory. Even if you're an experienced musician, Scaler can help you whip up advanced progressions.

pluginboutique.com

EVAbeat Melody Sauce 2 £49

2 A plugin melody-writing assistant; jam-packed with an array of new features. With a redesigned UI and Advanced Editor to stencil some chords into, you'll be able to lay down some state-of-the-art melodies, true to music theory, in no time.

evabeat.com

Modalics Beat Scholar $49

3 Geared towards assisting in the drum beats and rhythm department. If you're unfamiliar with the theory behind how beats and measures of music work, this plugin will guide you as you develop your understanding, with 250 samples to help.

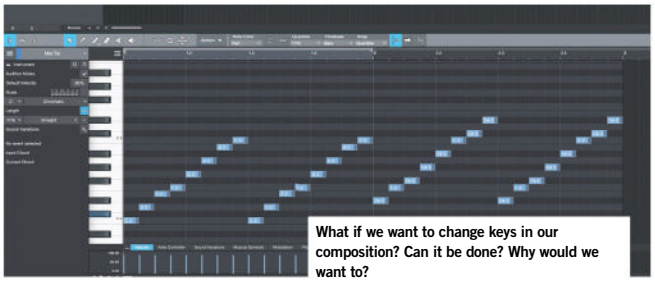
modalics.com

Changing key

Also known as modulation, changing your music's key, mid-song, is possible when composing music. It's used to keep a musical piece interesting: altering the conveyed emotion as the music plays. There are a few different approaches to modulation; some of them are more challenging than others, largely due to how specific keys relate to one another.

The easiest modulation method is to change between relative major and minor keys because they consist of the same notes. However, due to the similarity of relative scales, the switch is more subtle than other key changes. A more noticeable method of key change is parallel modulation. This is when we switch between scales holding the same root (or tonic) note. For instance, switching between C Major and C Minor.

Whichever method is used, a few rules apply when executing the key change. We cover four of them in our walkthrough here.

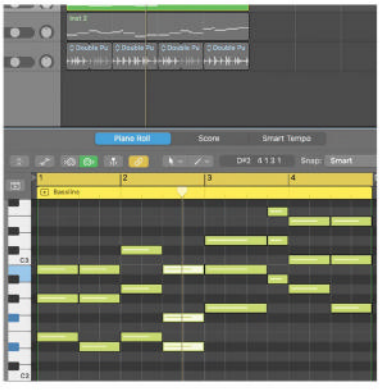


What if we want to change keys in our composition? Can it be done? Why would we want to?

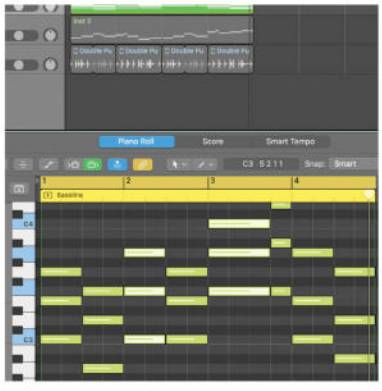
Four ways to change key

1 Going between relative scales relies on the major's dominant chord. C Major's notes are CDEFGABC; the fifth degree (dom) is G. To modulate C Maj to its relative minor (A Min), we go from the major's dominant Gmaj chord to the minor's tonic (Amin).

2 Parallel modulation relies on the fifth degree. Parallel scales (eg, C Maj and C Min) have no shared triad chords, but as both scales' fifth note is the same (G), the major's dominant (G Maj) can go into C Min by following it with a Cmin (tonic).



3 The gear shift method uses the dominant chord again, but instead of changing to a relative or parallel scale, we follow the dominant with the tonic chord of the scale that starts directly after our current scale. Eg, from E Maj to F Maj.



4 Finally: pivot modulation. It still relies on shared chords, but not with the dominant. Any shared chord between two scales lets us modulate. C Maj and F Maj share multiple chords. To move between the two, use any of these chords.

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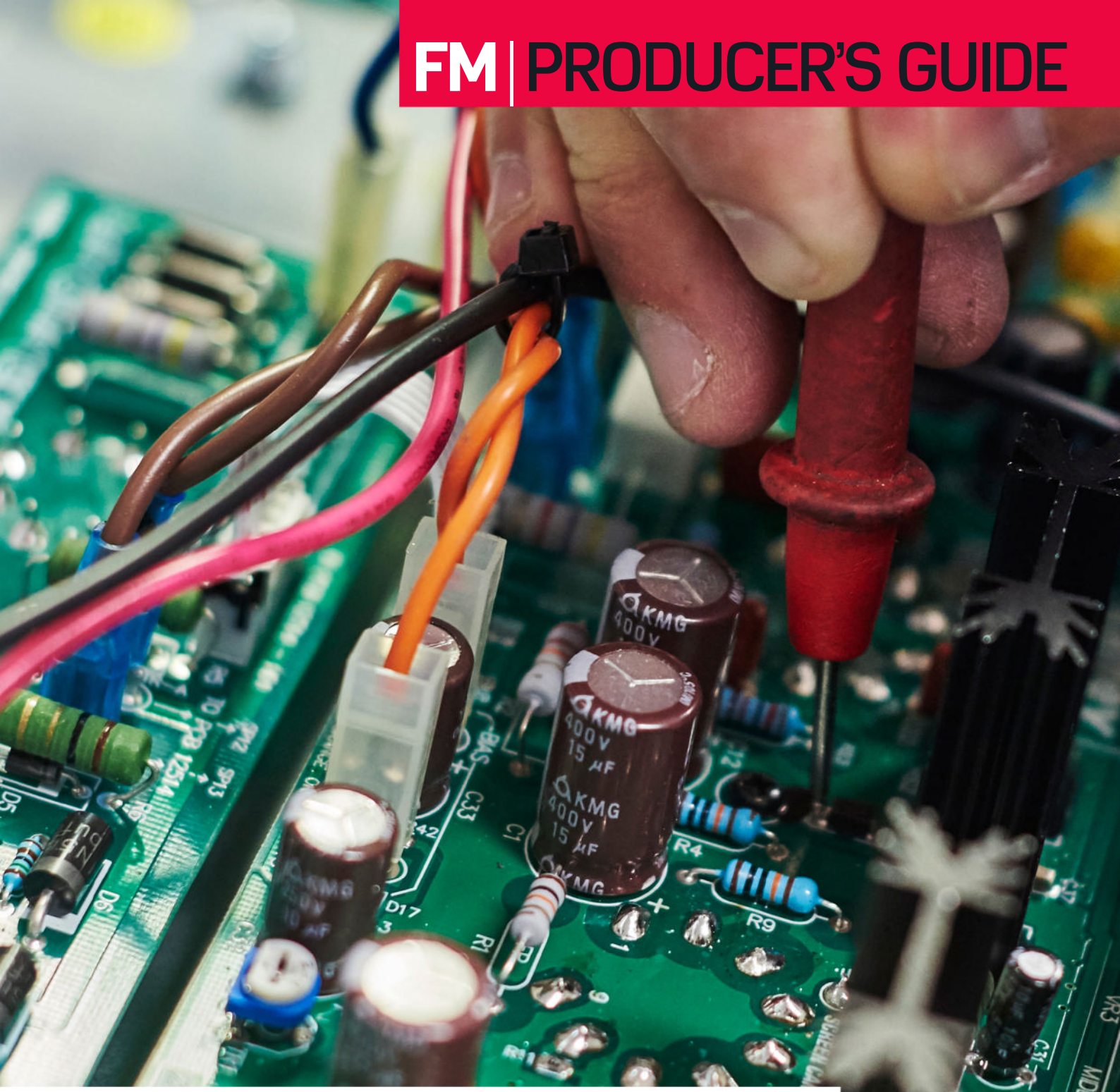


DIY modular building

Break out the soldering iron and build your own modules – **Rob Redman** shows you how

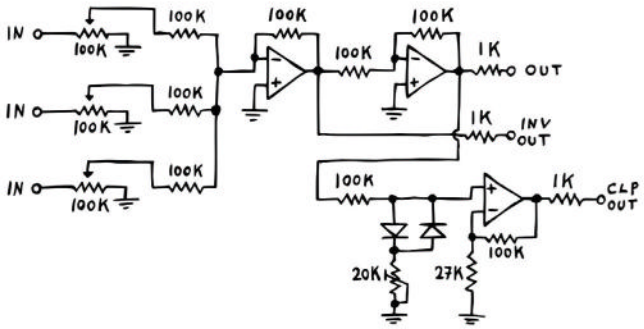
There are many reasons to embark on the DIY module journey. It could be a simple case of saving some money, or maybe you want to understand the components that go into your favourite modules. Maybe you have an idea to develop modules of your own but don't know where to start. Over the next few pages we'll be discussing the basics of this weird science, showing you some key techniques and highlighting some of the tools and components that are needed to get started. Grab a cuppa and a magnifying glass and let's get started…

It's all in the mixer

Designing a module is outside the scope of this article but it's worth exploring how circuits work in the context of a synth. We'll focus on a simple mixer module, from Erica Synth's DIY range. What's interesting with this very simple circuit is the addition of diodes, used to add some distortion to the output. Or, as is the case here, a separate output for the clipping circuit, which makes this a more versatile module than it might otherwise have been.

So what's a mixer? The idea here is to take two or more incoming voltages and mix them together, to create one new voltage. The problem here is that without some form of control you'd always output the average of the two signals, so we need to add attenuators, or potentiometers, before the mix happens, so we can dial in how much of each is used.

But what about the distortion that makes this module extra useful? This is called diode distortion and is why there are two op amps in the kit. Once the mixing stage is complete, the signal will go to the output but in this circuit the signal also goes off to the distortion section. Here the current hits a diode, which stops the flow of current in one direction.



A trim pot (basically a variable resistor) is used to dial in how much voltage hits the diode, which needs a certain amount to start opening and letting current flow through it. Resistors are used to control when and how much this happens. The outgoing current is then amplified by an op amp which is protected by a diode before being sent to the 'clip' output jack. This is only part of the story and, while simple, the circuit has a bit more going on, so check the schematic to fully understand what's happening, as lots of other components influence the flow of current. When you check the BOM (bill of materials) it can be worth having the PCB to hand, so you can think about what goes where. A method of keeping things organised can also be useful, even if it's just small tupperware boxes with labels and a good organiser is essential; buying components in bulk can be very cost effective.

Handling a soldering iron

Build some best practices for your main tool, to make sure you work safely and get the best results

Soldering is one of those tasks that many find daunting. Understandably so, as there is high wattage, high temperatures and small components involved. However, the reality is far from complex. The process itself is relatively simple and with a little muscle memory and a few tips for success you'll pick it up in no time. When it comes to choosing a soldering iron go for the best you can afford but don't worry too much if your budget doesn't stretch that far. When you spend more you get benefits like control over temperature and often a more consistent power supply but even a cheap iron will suffice. A solder sucker is a cheap but useful tool to have at hand too; it can help in remedying mistakes if they happen.

1 Keep your soldering iron's tip clean. You can get away with a wet sponge but that can reduce the tip's temperature, so a tub of brass wool is best. Simply push the tip in a few times to remove debris, then coat it with fresh solder to keep it in best condition.

2 Use a little flux to keep temperatures consistent. During use, the tip can oxidise and a little flux can eliminate that. Then retain the tip and you'll find temperature transfer remains even, making it much easier to solder your components to the PCB.

3 When using a premade PCB, which we'd recommend for at least a few early builds, invest in some magnifying goggles and something to hold things in place. The magnifier will help identify what can be tiny labels, avoiding mistakes with placing components.

FOUR QUICK TIPS

1 **Whether you're working in a dedicated workspace, or simply at the dining room table in your spare time, keep the area well ventilated. Soldering can produce some nasty fumes, so protect yourself and those around you while you work.**

2 Get yourself a breadboard. These are basically like a printed circuit board but temporary, allowing you to plug components and wires in to test concepts and are really useful and cost effective tools for all kinds of electronics.

3 **A magnifying glass or goggles can be useful. This can be a huge aid and prevent costly or annoying mistakes when identifying things like resistor ratings, where colour codes can be tiny.**

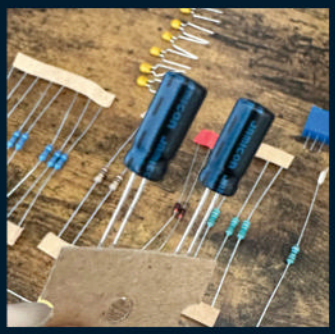
4 A circuit tester is a must for any electronics job. Get the best one you can afford. It will serve you well as well as last a lifetime.

What are they building in there?

Modules come in all shapes and sizes but there are some key components you'll find in almost all of them. Each of them has its place and task

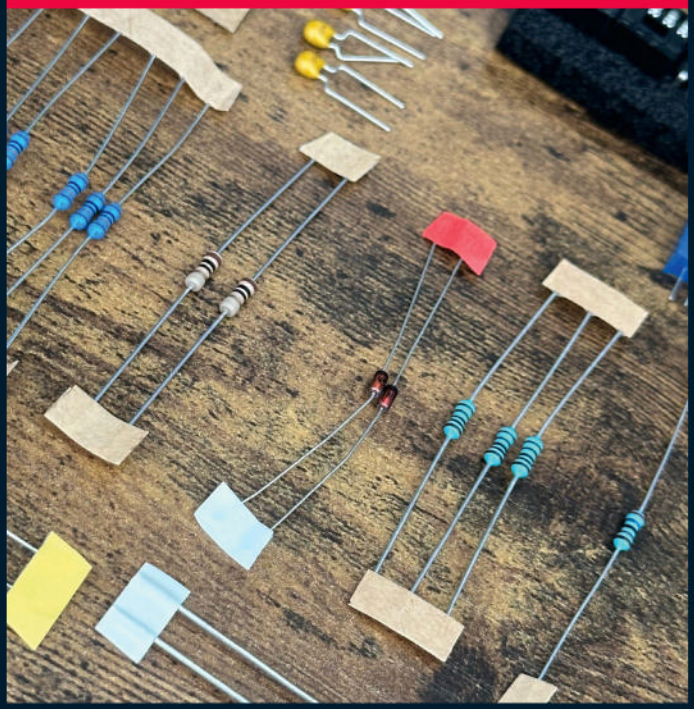
01 >

Capacitors. These devices can be found in all sorts of shapes, sizes and materials, from ceramic to electrolytic. They have many uses from splitting AC/DC to being a fundamental part of a filter but essentially they store current and this can be used for many things from power circuits, through to noise reduction and more.



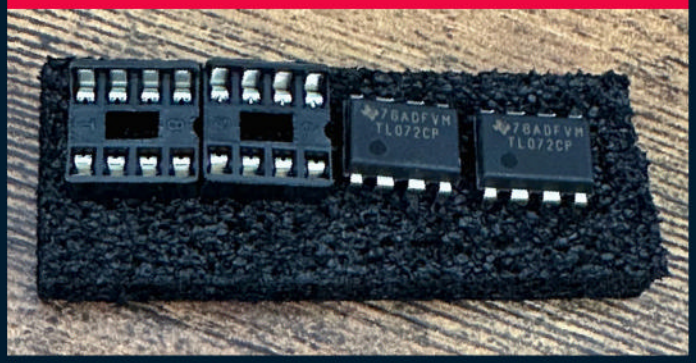
02 >

Resistors. These are the backbone of a circuit. They're available in a huge array of values but they share a common attribute and that is that they impede a current. They are used mostly as control elements, changing an incoming voltage to a different one, with the resistor's value dictating the level of change.



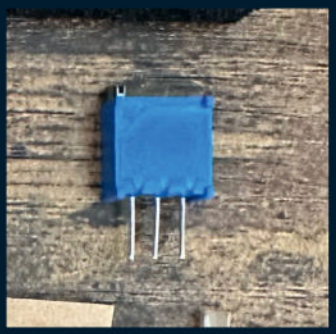
03 >

ICs, or integrated circuits, are self-contained circuits that live on a chip. These can be used for all sorts of tasks, such as op amps for distortion, but are mostly used as time and space-saving devices.



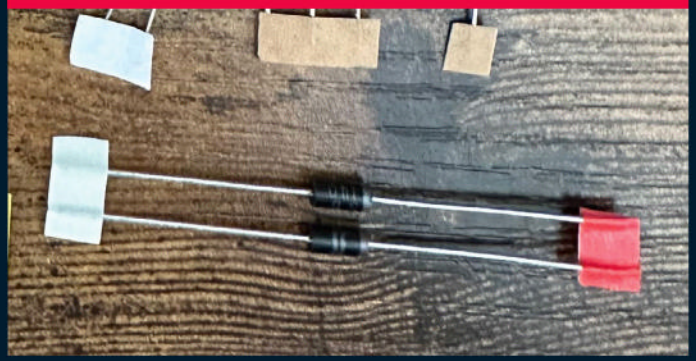
04 >

Transistors can act as switches or amplifiers. Think of old radios, where they would take the weak signal and boost it so that you can hear that signal through the speakers. When acting as a switch, a small voltage can be sent to the base (one of the three legs) which causes the other two to turn on, allowing current to flow through them.

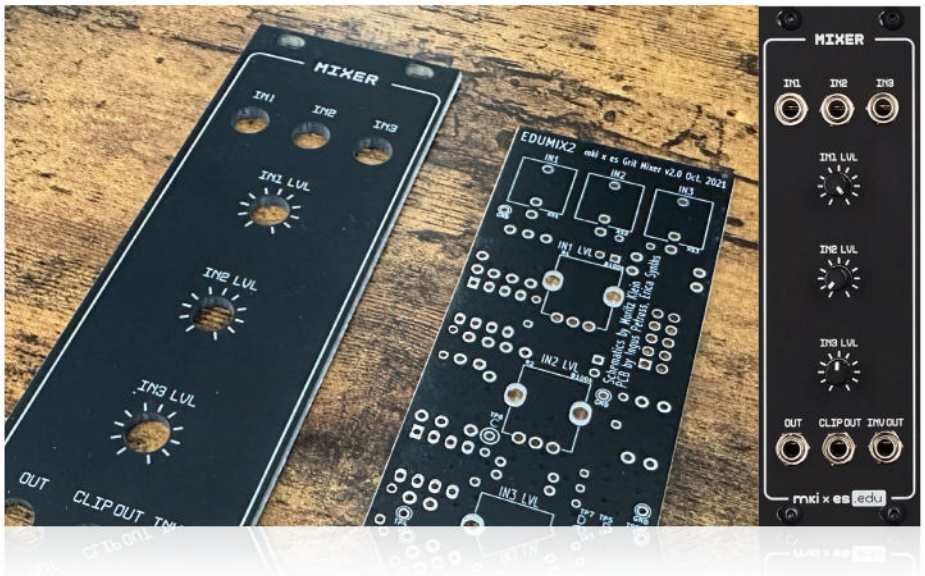


05 >

Diodes are basically roadblocks for current. They can prevent current from flowing in one direction, while allowing it to flow in the other. Many components have a positive and negative side. In a diode, this is really important as they are often used to protect sensitive parts of a circuit, such as the ICs used in op amps, or for converting AC currents to DC.



Mounting hardware



While far less fiddly than installing the smaller electronics components, mounting the hardware does offer some of its own pitfalls, so be aware of those as you get started to avoid the need to remove and refit. The biggest of these is alignment. If your module has perfectly sized openings for things like switches or pots then you need to ensure the pot is installed perfectly, otherwise you risk things not lining up. It may be tempting to give things a little nudge, but that can put undue stress on joints and limit the life of your module, or cause it to fail immediately. A helping hand or even a simple rubber band can aid this, to help keep the pressure even across the solder points, while you get on with the actual soldering. Trying to hold this yourself, while simultaneously soldering, is bound to end in tears.

How to... start low

You may be tempted to start soldering all the larger components first but you should begin with the lowest lying first. It will make your life far easier in the long run and, if you keep things neat, you won't have any trouble installing everything later. Start with resistors, diodes and small capacitors, working through transistors, larger capacitors, then ICs. When installing, focus on labelling on the PCB, as some things, like diodes, have a positive/negative side – these must be the right way round. If your kit isn't well labelled, keep a resistor rating chart to hand, to match the PCB, or circuit diagram.

How to... work double sided

You may have noticed that your PCB has things printed on both sides. One side may be a lot busier than the other but make sure you stick to the correct side. You may well still end up with a performing module if you get it wrong but it may well mean you have to desolder things to get the forward-facing components installed. For example, there may be jack sockets and attenuators, which need to then be fed through the face plate, making it really important for both the build process and the stability of the finished module.

How to... get the right end

Some components, in a similar way to polarised ones, need to be installed in a specific way. You will find that the hardware and labelling, as well as some of the mounting points on the printed circuit board, will have a clue as to which way round to place them. The TL072 ICs often have a semi circular notch on one end and the power socket will have a flattened corner. Match these up to the PCB and you will be good to go.

How to... test the water

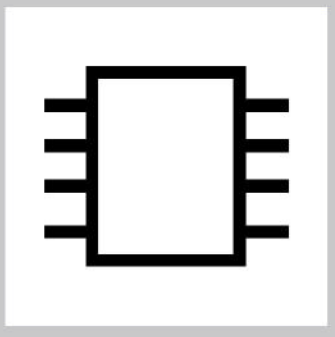
If you're unsure about any component, then test it. Polarity is so important it's best not to get it wrong and resistor colour schemes can be tricky to identify. This is where a breadboard can be so valuable. Testing parts of, or even an entire circuit, before you apply any solder, is a great way to both check you have everything in its right place, as well as to get a deeper understanding of what is happening and the flow of current through your module. Circuit testers/multimeters don't need to be expensive but can save you headaches and ultimately make the whole experience a fun and educational one.

Understanding circuit diagrams

Master the basics of this seemingly arcane language of glyphs, to better understand how components match schematics

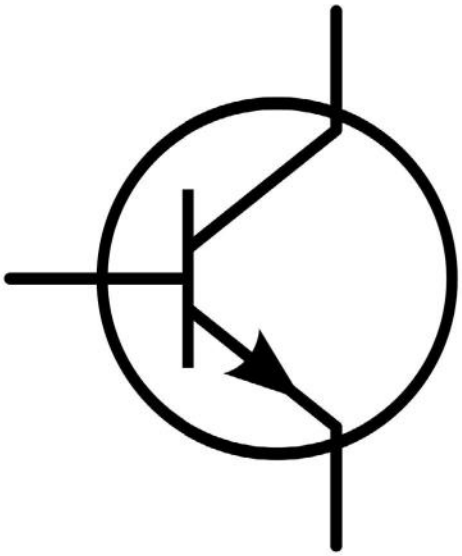
01 >

An IC/integrated circuit can have a number of symbols but most are a variation on the theme seen here, that looks a little like a square bug. Many will have a notch out of one end that corresponds to the same notch on the printed circuit, so you can be sure it is safely installed in the correct orientation.



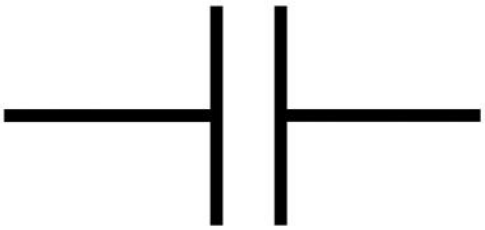
02 >

Transistors vary a bit but for most cases have three legs, marked something like A, B and C. B, the middle leg, is the base. The other two are the collector and emitter and you can tell the direction of the flow of current, symbolised by the little arrow seen on the glyph.



03 >

Capacitors have an easily read symbol where two lines break the circuit, running parallel to it, with a space between them. Some polarised capacitors have slight variations showing the negative side. You may see a curved line, or one with the ends angled. The outcome is the same, the straight line is the positive side.



04 >

As we've discussed, diodes are polarised components and need to be installed the right way. The symbol on a schematic will show a triangle with a line across one point. The side with the line is the cathode, or negative, while the other side is the anode, or positive. On the hardware you will see a line around one end, signifying the cathode.

05 >

Resistors come in all shapes and sizes and uses, but for the most part the symbols are all based on the sawtooth shape. An attenuator is the same, with the addition of a perpendicular line through it. Then there are some with the sawtooth in a box, usually for protective resistors.

© CRSSD Festival

JEFF MILLS

Hamish Mackintosh caught up with the producer extraordinaire prior to his set at this year's CRSSD Festival

The word legend tends to get bandied about way too easily sometimes but there are among us certain artists for whom the description fits perfectly. Jeff Mills is one such artist.

From his pioneering work as part of electronic collective Underground Resistance in '80s Detroit and his early '90s establishment of his own Axis imprint, Mills has ploughed a unique and ever-evolving course through techno. Always innovative and keen to push any and every envelope, Mills most recent incarnation is the three-piece electro-jazz-afrofunk ensemble Tomorrow Comes the Harvest who blew hearts and minds at the aforementioned CRSSD Festival in San Diego, California.

One could wax lyrical ad infinitum about the contribution Mills has made to electronic dance music over his career; the DJ skills, the soundtrack work, the TR-909 workouts – but why do that when we were offered an audience with the man himself; the one and only Jeff Mills…

For your 303 Day [March 30th] performance at CRSSD Festival, were you flying solo or is the band appearing with you?

"I'm with the band, with two other musicians and we're currently still on a tour that started last summer, and these are some of the last dates of this segment of the tour. It's quite interesting because we've worked out all the kinks and unclear parts and everything is much more defined, and we really have a clear objective for the performance."

Over the years, you've worked with lots of musicians. Is that a way of keeping challenging yourself musically?

"Many moons ago, just before Underground Resistance, I was in a band called Final Cut, which was an industrial-dance thing with four musicians. So, I learned about music from playing, collaborating and creating with other musicians. Then, with Underground Resistance, we literally made everything together… we found a really fluid way to produce a lot of music in a very short period of time. So, playing with other musicians is actually more of my career than playing as a solo artist. Playing with orchestras and working with other musicians is really a large part for me. Sometimes it's difficult to get there by yourself… obviously the other side of the coin being that, when you're working by yourself then there's no compromise at all. But when you are with someone who understands what the plan is and what the objective is then you can do some incredible things. So, that's always been the case and with Tomorrow Comes the Harvest it's even more so the case.

"We're only really thinking about the objective and not so concerned about how we actually get there. Individually, we know what the objective is so we're collaborating and helping one another to get there. It makes dealing with music much more valuable, I think. When you can clearly see what the result is from your actions and there's a clear goal what the music is actually supposed to do for the listener it's really a nice thing to do."

What sort of kit do you take out for your Tomorrow Comes the Harvest performances?

"I selected the musicians and the sound and function of their instruments so that we aren't just tied to one direction. So, they were selected and invited based on the versatility of the instruments, which they play. Jean-Phi Dary is a pianist but he also knows a lot about electronic music, so he can lean more into my direction, but he also knows gospel, afrobeat, blues and classical. With our tabla player Prabhu [Edouard], because he can do so many different things with his drums… he can play them like percussion, obviously, but he can make them mimic a bassline or create an abstract effect. My set-up is a mixture of many different things. So, I have synthesisers, I have drum-machines and live percussion so we're able to go in just about any direction we think of."

Sadly, FM never managed to catch any of your shows with the legendary drummer Tony Allen before he passed away…

"It was just an incredible experience to play with him and go on tour and record with him. If you've been around rhythm your whole adult life then you meet someone like Tony, who came from a totally different spectrum, you immediately realise that there are so many things you still have to learn about rhythm!"

Given your appearance at the CRSSD Festival for 303 Day, when did you first encounter machines like the TB-303 and your beloved TR-909?

"In Detroit. At the time, I was trying to make electronic music like everyone else. I couldn't afford a TR-808 as they were too expensive and very difficult to find. The 808 was a professional type of machine back in the '80s but then they introduced the 909, which was cheaper and more accessible, and I was lucky enough to get one; it started from there. Of course, they then brought out the 303, the 707, the 727 and you just collect them and they became the foundation of my music. If you experiment with music like I do, then you can look at these machines differently and try and use them differently. That's what happened to me. So, I can play programs out of the machines, sequence them and use them for a studio recording but I can also play them as a soloist as well, which gave the machines another life by doing that."

Having had numerous conversations with people who say that 'electronic music makers aren't musicians'; we generally resort to showing them clips of you playing your 909, such as during your mix *The Exhibitionist*. Was it always your intention to go the extra mile with playing your machines?

"That really comes from my days as a hip-hop DJ, you know. I started DJing with the idea that, of course you can mix the music and make transitions but, if you're tactful and you practise enough, you can do things with the music to create something that wasn't originally there. I became a DJ in that era so, whether it be turntables, a mixer, a drum machine or synthesiser, I'm always looking at it differently and looking at what I can do differently with it to create something new with it. The whole idea of an album or a 12" or what a track is supposed to be, I'm always looking at what more I could do to it to make it more of an experience. I think we've done so much with these machines, and we've done so much with electronic music that I wouldn't be too surprised if musicians found a way to be able to start looking at these machines differently. Maybe start looking at the synth. how they play it and maybe start redefining our relationship with these machines because they can do much more than just be programmed and just hit play to play the sequence. So, what I did with the 909 on *The Exhibitionist* was just a small fraction of what I think could be possible. So, I'm always waiting to see musicians using things differently. Not just playing them but redesigning the relationship with them."

What do you think it is about a lot of the early Roland gear that keeps it so special in our hearts – particularly when things like the 303 only sold about 10,000 units when they came out?

"Without wishing to devalue what instrument manufacturers are doing, these older machines were simpler. They weren't perfect machines; they had some limitation but it was that limitation that required you to be creative and come up with an idea of how to make it sound different than the next guy. When I think of some of the new equipment available today, it's a little overwhelming all the things you can do… it's endless! You don't have any more problems; the tech has solved all the problems. Those older machines were things for you to write and create with… similar to the new machines, but instead of allowing you to do one thing, the new ones allow you to do 10 things. For someone whose been buying and collecting pieces and instruments for decades, I still tend to favour the machine that does the one simple thing. And when I put that with another machine that does one simple thing… [laughs] the three of us have to work it out. So, I'm not always in a rush to go out and get the newest thing as I still prefer to work with the older pieces of equipment and find new ways to make them sound different and do different things. I'm waiting for instrument makers to make that simple piece of gear that does that one thing brilliantly, like a 303. There's no sound like it. We know that it was supposed to be like a bassline, but… [laughs] what kind of bass is that, right?"

Have you done much investigating of the software versions or the clones of the 303 etc?

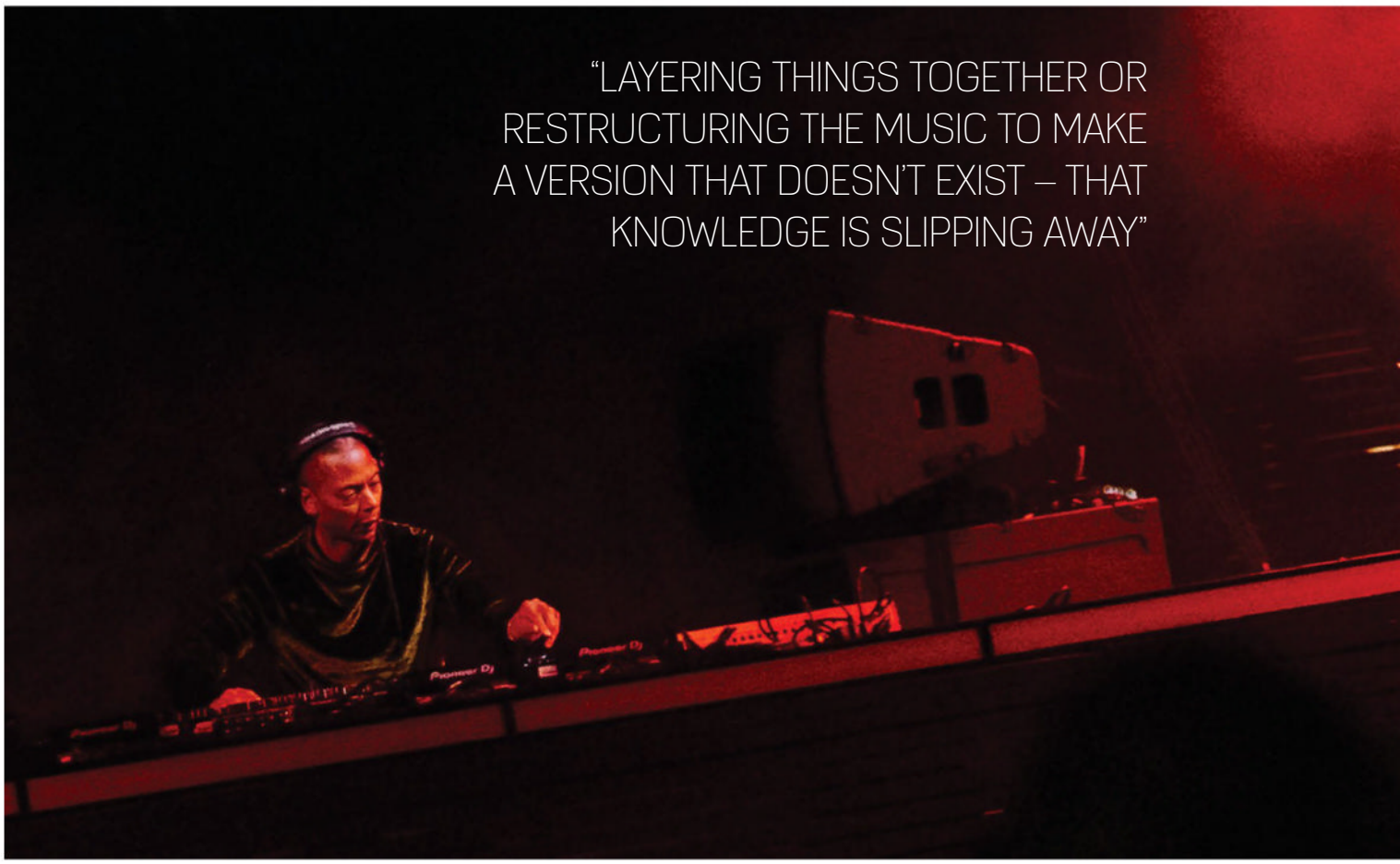
"Yeah, and some of them are incredible. It's endless what you can do with the plugins. Someone recently asked me if I missed vinyl records and my answer was 'yes', but that I also missed having a box that limited how many records I could put into it. It was only 65 records in a normal record box, so those records had to be really good. The artist had to have more than one good track on those vinyl if you wanted to keep people interested. So, I miss everything about vinyl, the timing and the time it took to sort through records to find the one you wanted, and, in the process, you would find something else and so you'd play that. Those kinds of things don't really happen in the digital realm. So, if you applied this thinking to equipment or instruments then it's kind of the same thing, really. When you have those limitations, it forces you to get creative."

Do you think we're losing the art of beat-matching due to what technology allows us to do?

"Yeah, I think it's slipping away. The art of 'the mix' is going away with a certain generation that grew up with it – that's how we started. I don't hear the art of the mix so often from younger DJs, they just make the transition then once they get into the track; they just let it play. Most don't seem to think that more should be done to it other than maybe take the bass or the claps out. Layering things together or restructuring the music to make a version that doesn't exist – that knowledge is slipping away."

Might seeing you working three turntables give some younger DJs a panic attack?

"You can explain to other people the value of three or four



© CRSSD Festival

turntables; you can layer them together; you can take frequencies from each one or create a master-mix. Part of the fantasy of dance music is losing yourself in it, so when the listener can't tell when something's coming and something's leaving then you're being more effective in this method of programming music. If I try to explain the value of that, one might reply that it might not be necessary. I mean, why try to mix three or four turntables when the computer can do it, which is a valid point. My reply would be that there's a human element to it – you're playing music to other people not to other machines. Your human response to trying to operate three or four turntables translates more realistically to people. I think that frame of 'question and answer' can be applied to many other aspects of dance music, but we can't forget that we're playing music for people. People have senses and feelings, and they can tell when you're trying to do something with the music to make them feel an experience. They can tell that, you know, so if you take that out and you make everything perfect then there's no excitement to the process."

There's a worrying trend in the UK at the moment of dance music venues struggling or even closing. How do you think electronic music can best adapt to this?

"Yeah, I think that it's always been a rollercoaster – one market is up then the next market is down, you know? Some aspects of dance music are healthy while others are almost non-existent [laughs]. I don't mean to be a Debbie Downer, but it's been a long time since most factors of electronic music and dance music really worked – when selling music was healthy; being a touring DJ, playing clubs and festivals. It's been quite a while since all those factors have been healthy.

"I've seen really wonderful genres of music come then fade away in my lifetime – enough to know that electronic music is something that we should not take for granted that it will always be here. So, when things are working, we neglect or can't quite see the things we need to do to keep the artform healthy. It's not always about being on the front cover of magazines, the Top 10 or making money. There are parts of the artform that need to be taken care of. You can't just live in a house and simply enjoy living there – sometimes you have to do some housekeeping. So, we don't really do those things and we never really did. We never really worked to create the components that any genre of music really needs to be able to translate who an artist is and what he does to people that don't even know that artist is even there. Maybe it was too loose and too underground and obscure, but we never tried to define what is good. If an artist is doing something really amazing, then we should be able to read about what it is about them that is so exceptional its breaking boundaries. That's then something we can hold up to the rest of culture to say, 'see this is what we're worth'. We never really invested in creating those type of vehicles and then along comes social media and they take it in a whole different direction where it's not even about the music anymore, it's about the person and what they look like. We don't even ask what exactly they're doing anymore! So, I think it's a hard question and an even harder answer that I can't fully answer but I think we will see more consequences of not doing the things that we knew we should've done but maybe didn't because we were partying too much, or maybe thought things would happen automatically."

Is AI an existential threat to the dance world?

"First of all, I think that there would have to be a great demand for what AI offers. I mean, how many people are really wishing to have a mix or a version of someone that didn't actually do it? I'm not sure. I think it all depends on the demand, and if it's as good or even better than what the original person did. We live in a world where we still keep authenticity around us. Of course computers and AI can simulate it, but that's not what the person made, it's what the computer calculated that a person like that would make. So, I guess it comes down to if AI can make something so amazing that I couldn't make anything like it myself. Ultimately, then, my answer is no, I don't see AI creating a threat to the art of creating something from nothing."

What instruments or software do you currently find yourself using most?

"Oh, just the standard sort of Korg Mono/Polys and old Moogs with that crisp, heavy sound – nothing really unusual. I have newer pieces and special things, but what I'm using most of the time is really very simple because it's about what you do with it. I can't even tell you how many tracks I've made with a 909 and they don't all sound the same. When you run the sounds into the board and you're using outboard then you have so many ways of modifying the sounds, so I tend to stay around the old classics."

Any time this hack hears the phrase 'Mono/Poly' it gives bad flashbacks to having an original one which was traded in to finance the purchase of a Yamaha DX!

"But the DX7s were great machines. I made *The Bells* on the DX7! The Yamaha DX7 was a machine that everybody had in Detroit at that time. They were reasonably priced; it was small and had a lot of sounds in it for that time. Yamaha was doing some really nice synths and drum machines at that time, so you would pair them together. All the early Underground Resistance stuff that was all done with DX7… [laughs] so maybe that was a fair trade, man."

Given your renowned love of science fiction, if you were offered the chance to do a gig on the ISS or one of SpaceX's flights, would you do it?

"[Laughs] Of course… It would be worth it just to see Earth from another perspective and to maybe understand in a more profound way just how fragile this planet is, and how small the land mass we occupy and the distance between us actually is…" FM

WANT TO KNOW MORE?

Stream work by Tomorrow Comes the Harvest via their Bandcamp page: **tomorrowcomestheharvest.bandcamp.com/album/evolution**

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PIONEERS

Pharrell Williams

A behemoth of pop culture who has collaborated with Daft Punk and produced Snoop, Britney, Missy Elliott and more

Very few musicians have commanded the same level of influence as Pharrell Williams. Flourishing both behind the boards and in front of the mic, Pharrell has made a name for himself as both a world-dominating artist and a hitmaking producer, earning legions of fans, the respect of the industry and a trophy cabinet's worth of accolades in the process.

Born in Virginia, Pharrell was drumming from an early age; at only 12 years old, he met his future production partner Chad Hugo at a summer camp for musicians. "Have you seen that movie *School of Rock*?," Hugo told *The Age* magazine in 2007. "That was us, except we played jazz standards."

Bonding over a shared love for A Tribe Called Quest, the precocious pair soon struck up a musical partnership as The Neptunes, before another fortuitous meeting found producer and architect of the 'new jack swing' sound Teddy Riley dropping in at their school talent show.

Before long, Pharrell and Hugo had a record deal, and The Neptunes were born. The wildly successful duo went on to produce some of the most recognisable hits of the '90s and '00s; Nelly's *Hot in Herre*, Kelis' *Milkshake*, Britney Spears' *I'm a Slave 4 U*, Snoop Dogg's *Drop It Like It's Hot*, Gwen Stefani's *Hollaback Girl*, Justin Timberlake's *Rock Your Body*, Missy Elliott's *On & On*... the list goes on (and on).

Rock star

Folding together elements of R&B, hip-hop, funk, soul and rock music into a catchy, often raunchy and instantly accessible pop package, The Neptunes became an unstoppable force and an

unavoidable presence on chart radio; a 2004 survey found that at one point, 43% of songs played on US airwaves had been graced by Pharrell's Midas touch. That same year, The Neptunes deservedly took home Producer of the Year at the Grammy Awards, an accolade Pharrell would go on to win a further two times.

"The Neptunes is what we do," Pharrell told *The Age*, "but N.E.R.D. is what we are."

A Neptunes side project formed with school-friend Shay Haley, N.E.R.D. collided hip-hop, funk and rock to produce brash, bouncy and playful hits that, while they never reached the stratospheric levels of success of The Neptunes' production work, earned a devoted following and paved the way for even goofier, more experimental hip-hop artists like Tyler, the Creator to flourish in the 2010s and beyond.

As Pharrell's star continued to burn ever-brighter, the artist began to find success independent of his long-time creative partner. His debut solo album, *In My Mind*, came out in 2006, before Hollywood came calling and he was invited to compose the soundtrack for the animated box office smash *Despicable Me*. It was this film's sequel, however, that would bring Pharrell the opportunity to record what's become perhaps his biggest hit, the colossally popular 2013 hit *Happy*, an infectious, terminally jaunty number that hit No. 1 in 24 countries.

Another solo album followed, along with a further spate of collaborations that would forever etch Pharrell's name into the pop history books; Daft Punk's *Get Lucky* and Robin Thicke's *Blurred Lines*, to name just a handful. By this point, there was no stopping him, with Pharrell's influence extending outward beyond music and further into film, fashion and pop culture, as he became one of the few music producers to outshine the artists they work for and graduate to the status of genuine icon.

Producer extraordinaire

What makes a Pharrell joint a Pharrell joint? Many have noted the stripped-back economy of his deceptively simple productions, which piece together a handful of essential elements into tracks that become more than the sum of their parts – "skeleton songs", Pharrell once called them. An emphasis on loose, fluid grooves, often ornamented with unexpected percussion samples, is another fundamental, along with his producer-tag of sorts, the 'four-count start' that imitates a record skip, that introduces more than 200 of his songs. Above all, though, Pharrell's music is defined by the primacy of the hook, the earworm, that universally irresistible nugget that keeps us coming back for more. FM

PHARRELL IN FOUR RELEASES

N.E.R.D., *In Search Of...*

Star Trak/Virgin/EMI, 2001

N.E.R.D.'s debut album *In Search Of...* has an interesting story behind it. After an original, Neptunes-esque version of the album was released to lukewarm critical reception, the project was scrapped and re-recorded with live instrumentation; specifically, distorted guitars and the kind of drums you might find in a Papa Roach song. Whatever the motivation behind it, this stylistic left-turn was a hit with audiences, giving rise to an eminently funky, knowingly goofy variation of the rap-rock formula that became N.E.R.D.'s calling card.

Kelis, *Milkshake*

Star Trak/Arista, 2003

Only The Neptunes could've taken a beat this sparse and this strange and turned it into a party anthem that skyrocketed up the charts around the world. No kicks, no snares, just an Egyptian darbuka drum and a bell sample provide the backbeat here, while a few acoustic guitar chords and an oddly detuned (and dare we say, poorly played?) synth accompanies Kelis' scorching vocal performance. In typical Neptunes style, just a handful of elements were all they needed.

Snoop Dogg ft. Pharrell Williams, *Drop It Like It's Hot*

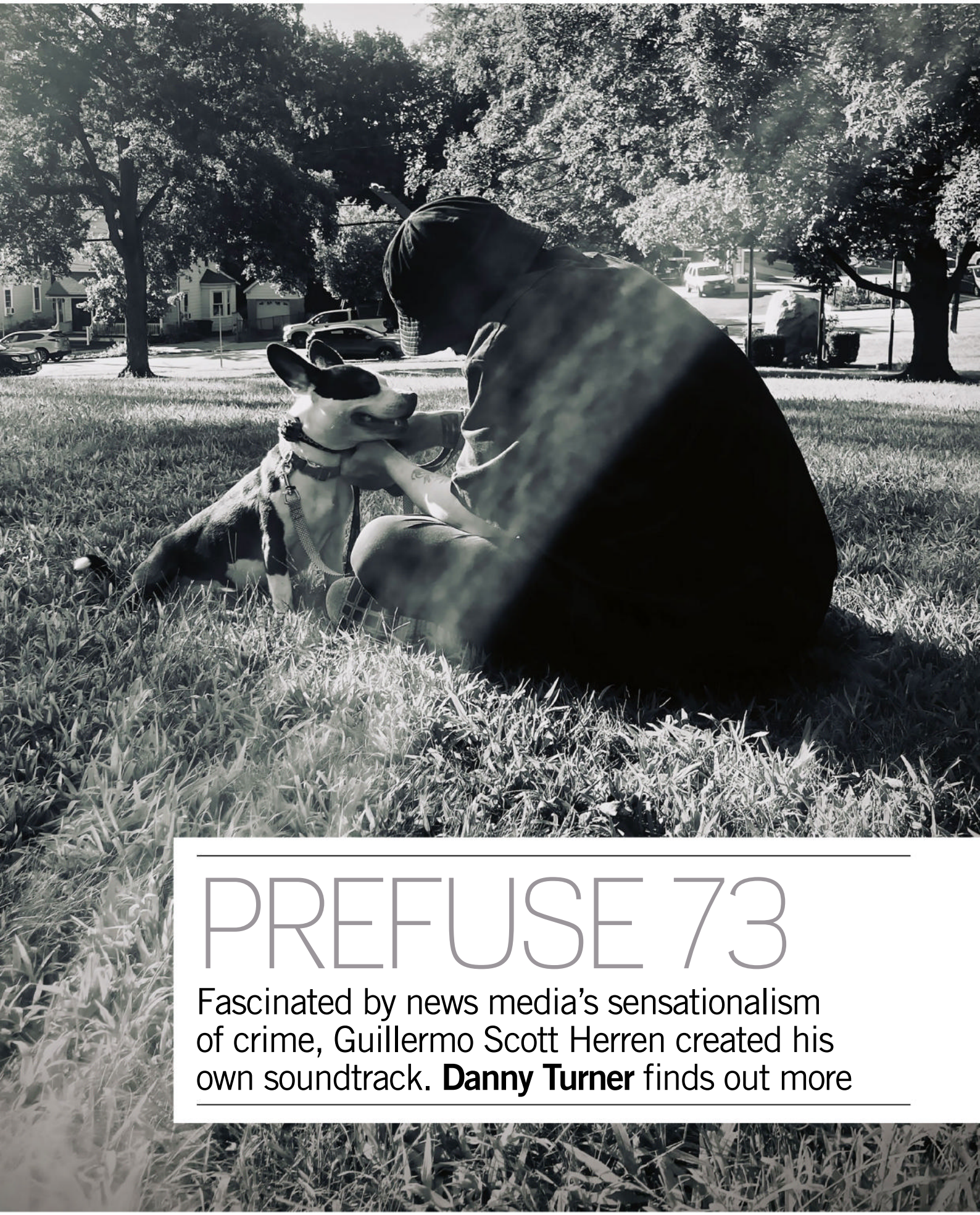
Doggystyle/Star Trak/Geffen, 2004

For our money, the ultimate Neptunes production, Snoop's *Drop It Like It's Hot* is actually kind of out there for a pop song this catchy. The menacing and minimal beat showcases Pharrell's talent for sampling real-world sounds, in this case, the 'tsssss' of a spray can and the sound of tongues clicking, transforming them into a production solid enough to contend with that iconic hook in the chorus.

Daft Punk ft. Pharrell Williams and Nile Rodgers, *Get Lucky*

Daft Life/Columbia, 2013

Pharrell stepped out from behind the mixing desk for this one, the stonkingly popular lead single for Daft Punk's *Random Access Memories*. While the French duo's polished production and Nile Rodgers' lithe guitar work set a high bar, it's Pharrell's soaring, soulful vocals that steal the show here.



PREFUSE 73

Fascinated by news media's sensationalism of crime, Guillermo Scott Herren created his own soundtrack. **Danny Turner** finds out more

For over 20 years, Guillermo Scott Herren has been releasing derivations of hip-hop under a swathe of pseudonyms such as Prefuse 73, Savath and Savalas and Delarosa & Asora. With the pandemic giving him the time and space to think outside of the box, the Miami-born producer emerged with *The Failing Institute* album series – a new way of working, collating vocal samples and textures using minimal effects.

The latest Prefuse 73 album, *New Strategies for Modern Crime Vol. 1*, continues Scott Herren's search for new avenues of expression. After being troubled by America's 24-hour news cycle of crime, he began digging into vigilante movies from the '70s and '80s. In deep admiration of their soundtrack scores, he abandoned his famous reliance on the Akai MPC and enlisted live musicians to create his own dark, cinematic jazz-funk soundtrack.

For the first 20 years of your career, your albums were mostly based around origins of hip-hop, but that seemed to change in 2020 with your *Failing Institute* albums. What did your explore with that series?

"That collection of stuff was more of an exercise. They were made during Covid when I was able to focus and see what I could do without inhibition and work and study with sounds and textures that were very similar. That wasn't something I was used to doing because everything I'd done up to that point had been quite heavy-handed and maximalist. I loved being able to use that time to reconfigure things in my mind, separating everything I'd done from what was in front of me. During that period, I also did a bunch of commercial work, which was a side-hustle to offset things economically, but I didn't think that was much fun."

What didn't you enjoy about doing commercial work?

"I love soundtrack work, but I didn't like doing corporate commercial work like regular TV adverts. It can be really interesting and cool if you're working with the right director or production group, but there's usually 30 other people working on the same project and it starts to feel like it's a race towards who gets the job and gets paid. The briefs are so vague – they want something 'upbeat yet downbeat, cheerful yet depressing', and it's really hard to decipher that. The worst part is that you're trying to hit the bullseye when out of nowhere they'll come back and decide to completely change direction."

Your latest album *New Strategies for Modern Crime Vol. 1* continues your exploration away from hip-hop. What can you tell us about the ethos behind the album?

"During Covid, I noticed that certain people, whether through the media or government, like to enhance the level of crime and how dangerous it is and tell you that you can't go outside without getting stabbed in the neck, or ride the subway without getting punched in the face and thrown onto the third rail. This stuff happens and always has, but I realised they're just using injustices to sensationalise crime and put more money into millitarising or ramping up police budgets. I wanted to make a soundtrack for today's environment with a nod to the sensationalism that existed in the '70s and '80s when things were much worse and actually real. I started watching Italian crime films and '70s American trash like *Death Wish*, and when I saw those movies I realised that all of the soundtracks were amazing. That experience made me want to escape the music I was making at the time and go into that whole world."

Do you find it distasteful when mainstream news media uses that as a form of entertainment despite the serious subject matter?

"It's hard to explain, but you see traumatic and horrible things on the mainstream media channels and it does feel as though they're using that as entertainment. 24-hour news channels are a pretty recent phenomenon and, left wing or right, it feels like they're all competing and using the same sort of sensationalism. They're throwing trauma at your TV, locking you in and making you terrified by exaggerating everything you're seeing to make an awful situation worse."

You've mentioned that you've always got a movie on in the background while making music. Is that a distraction technique or a creative tool?

"I think it's both. I've always worked with the TV on mute or just enough so I can turn my head and watch it. People I work with can't stand it, but it definitely acts as a form of inspiration – especially when I'm mixing because those images can throw so many great visuals into your head. I even got a cheap DVD player so I could get those harder to grab, weird '70s and '80s movies that you can't find anywhere else."

Did you do any specific research or study compositions that were relevant to the style of music you were creating for *New Strategies for Modern Crime*?

"Do you remember when records were affordable, or you could still find random soundtracks for $5? When I first started buying vinyl I was obsessed with all of those original soundtracks, so I already had this catalogue of memories that I could pull from. It's not related to sampling, but having an innate understanding of how tension builds, compositions are formulated and hearing things more as scenes [helped]."

Does the album definitively steer towards the '70s?

"Without being clichéd, it definitely leans towards cinematic themes from the '70s or early '80s and the complete chaos of New York at the time, especially 42nd street. If you picture the movie *Taxi Driver* with DeNiro driving around, then that whole area of NY had a big influence. About three years prior, I was living around that area and getting really obsessed with historical stuff and the seedier side of NY's history – like, 'oh man, this place was a crazy strip club back in the day', or a venue in Times Square where certain bands played when it was a completely different place. That history is so important to have rather than putting a canopy over things that people don't want to see. I'd rather see that and be uncomfortable than have everything look like Disney and not get the original culture."

Talking of *Taxi Driver*, how much of an influence was Bernard Herrmann's amazing score for that movie?

"It's probably the most mainstream thing I can point to alongside all of the giallo soundtracks. When I point to American films, I use *Taxi Driver* and *Death Wish* so people can reference what I'm talking about before I go into all those obscure revenge movies that had the same vibe, where the cinematic quality is really horrible and you can barely see anything. Those soundtracks were amazing, and *Taxi Driver* has to be one of the top five of all time."

Soundtrack music obviously has film to complement it. How did you seek to create a soundtrack that's authentic without people having images to reference?

"It's an interesting question, but something just happens when you start arranging live instruments. For example, when you

use a horn arrangement to create a mood, you intuitively know where to go because certain notes just scream at you. The first track, which ended up being called *Forever Chase*, didn't start out with me trying to make a chase song, it was built around prepared piano and bass and one or two Moog lines that created a whole scene in my head. It's a different way of composing, because my previous stuff was based more on emotion, and this was more focused around what the visuals in my head looked like as I'm building the track. Sometimes, I'd work on a track and in the middle of it think, this would be cool to finish, but it's given me a better idea for a new track. The best way to sum up the entire process is that it had a cascading effect, and as a result I've also finished a second mini-album."

Does the album have a narrative?

"The way that people listen to albums now is not the same as when I would listen to a soundtrack back in the day. If I picked up something from the record store I would always listen to the entire album, and I'm not trying to sound like some old boomer guy, but there's something about music made in a conceptual manor that intrigues me. This record did take its own course like an imaginary film. By the middle of the process, I'd started referring to songs as scenes even if that wouldn't make sense to anyone I was talking to."

In the past, you've explained how the Akai MPC has been integral to everything you do as a producer. Are you still following the series and upgrading each device?

"It's crazy you say that because right before you called I was rebuilding the pads on an old MPC4000. Out of all the new ones, the only one I really mess with is the MPC One because the workflow and layout is similar to the old ones, and you can see what you're doing instead of having a small calculator screen. I tried to follow the line, but started to realise I was spending money on a sequencer that has nothing to do with an MPC2000XL. The workflow is very different, I prefer limitations and those early machines were more intuitive to use. Even in standalone mode, the new ones are basically doing everything that a computer can do."

Did you ever try other controllers like Maschine?

"On my main computer, where I record and track, I do use Maschine because it integrates a little better and you can load up more stuff when connected to Pro Tools. It took me a long time to like it, but Maschine's sync-ability is more to my liking. I don't think I'll ever stop loving that approach to making beats, but this record has definitely been more composed. I wrote things down to create proper arrangements, and the only thing close to using an MPC was some of the sequencing stuff that's necessary to do as a solitary producer."

Did the score-writing element require a steep learning curve?

"Before I used a sequencer, I always used to write down drum patterns and notes, but when you're going to interface with other musicians you need to operate on their level and give them everything you can, rather than just a vague idea. Due to the pandemic, I was forced to work remotely, and everybody I worked with was located in different states, but they were much more proficient than I was in terms of writing and sending back seamlessly recorded parts."

How did you illustrate wanting the various musicians' individual parts to sound?

"I didn't want to make it confusing for the collaborators, so I wrote out all of the woodwind and other melodic instrument parts in different timbres and registers on either a Moog Grandmother or the Moog Matriarch. You can do some really cool stuff on the Grandmother by creating multiple voices and abnormal waves using different pedals and pitching them down. That was fun in the same way that using an MPC is fun because you have to make the most out of one instrument. By emulating those swells, I could show the musicians where I saw the music going, but if a sample was available I'd use that to figure out how to show the player the vibe I was looking for."

Despite this project being much more expansive, the idea of using inexpensive gear clearly still appeals to you?

© Jonah Freeman

"MY PREVIOUS STUFF WAS BASED MORE ON EMOTION, AND THIS WAS FOCUSED AROUND WHAT THE VISUALS IN MY HEAD LOOKED LIKE"

"I think it's ridiculous for a working-class musician that has to give up so much to pay $10,000 for a new Rhodes. If you're trying to make music for a living, it's not fair to make things so out of reach for people or fail to create a less expensive version. And I don't mean make it for software, because a lot of people don't want that, but there's no way I'm spending more on a Rhodes than a car."

As a celebrated hardware user, what's your approach to soft synths?

"I'll use some when they sound good, but a lot of soft synths still sound really digitised in a home studio environment. Unless it's meant to be digital, the sound just doesn't hit right and I still don't know if I can trust the way horns and strings turn out when they're created by soft synths. If a part is played too perfectly by a human, I still want to fuck it up to make it sound weathered or less pristine."

You primarily see software's role as being more useful for recording or effects processing?

"I usually want everything that's recorded sent to me dry so I can figure out where it's going to sit in the mix and apply the right effects processing. On *New Strategies for Modern Crime*, I wanted to limit my use of plugins. I have a lot of Universal Audio and Arturia stuff, so I limited my use of those to plate reverbs, spring reverbs, certain compressors and things that aren't going to make stuff sound instantly loud. Keeping things scaled down and disciplined by using simple delays and analogue recreations like the Space Echo made way more sense. I also used my four-track a lot to play sounds through and saturate them."

As a beatmaker, did you use live drums or have the confidence to programme drums to sound live?

"It's weird, but a lot of the live parts had implied rhythm so I didn't have to do much beat-making. I either played on my kit or dialled it in. If I wanted to something sound super stiff and robotic, I'd create beats that way rather than use a live take."

Has this process of recording live instrumentation soundtrack-style changed your approach to music-making or how you think about recorded music?

"I feel like it's reconfigured the way I approach recording. It's hard to explain, but when you mic things up and start to think about how everything sounds acoustically it does change your approach. Now I could never record something in the box without adding some sort of air to it. That doesn't mean I have to add 'trumpet', it's more about having something that's moving in the music because it adds so much more dimension. You learn something new from every record you make when it comes to acoustics, space or even whether a song's a song, so I don't think that there's any way around that process changing you." FM

WANT TO KNOW MORE?

The latest Prefuse 73 album, *New Strategies for Modern Crime Vol. 1,* is out now on Lex Records. For more information, visit lexrecords.com

FutureMusic Platinum Award

Arturia AstroLab $1,699

Those hoping for the full V Collection experience in hardware form might be disappointed. But, as **Si Truss** discovers, AstroLab's simplicity is its biggest selling point

CONTACT **WHO:** Arturia **WEB:** arturia.com **KEY FEATURES** 61-key stage keyboard powered by Arturia's Analog Lab software, V Collection and Pigments **INCLUDED SOFTWARE:** Analog Lab Pro, AstroLab Connect (free download from Apple/Google Play stores)

THE PROS & CONS

+

Quick and user-friendly workflow

Draws on a broad and inspiring range of sounds: from pianos to vintage polys, West Coast modular and cinematic samples

Virtually seamless integration with desktop and mobile libraries

–

Looper is disappointingly basic

Some limitations on what V Collection sounds can be used

Most functionality can be accessed using a MIDI controller and laptop

Arturia has been steadily releasing emulations of vintage synths for almost 25 years, and in that time the French brand's V Collection has become one of the most widely used software packages among music makers. With a solid, varied line-up of MIDI controllers to support it, the V Collection has evolved into a tight, user-friendly system that offers access to a vast selection of classic synth sounds.

Central to this ecosystem is Analog Lab, which acts as both a librarian for and entry-point into the V Collection. Essentially a preset player, Analog Lab collects thousands of V Collection-powered patches – as well as sounds from Arturia's flagship softsynth Pigments – into a single interface, with a multitude of tools allowing users to browse, organise and expand its library. Those who own the full version of whatever plugin a sound is based on can dive into the full UI to tinker under-the-hood, whereas users with just Analog Lab can make surface-level changes via four macro controls and customisable effects.

With AstroLab, Arturia takes all of this and puts it into a piece of standalone hardware. On the surface, this seems like a fairly obvious move. Software brands have been going 'out of the box' with increasing frequency in recent years, from Akai with its standalone MPCs, to Roland's Cloud-compatible Junos and Jupiters, NI's Maschine+ and Ableton's standalone Push. Against this backdrop, the idea of a self-contained 'V Collection synth' seems like a no-brainer.

AstroLab doesn't fit quite so neatly alongside the products mentioned above though. Whereas those all aim for DAW-in-a-box depth or at least customisable synthesis, AstroLab keeps things far more surface level. Arturia describes it as a stage keyboard, which is a label that suits it better, if not perfectly. Either way, those hoping for tactile control over the oscillators, filters and envelopes of each V Collection instrument will be disappointed.

In truth, AstroLab's simplicity is its greatest selling point. This is effectively Analog Lab in hardware form, and benefits from all of the speed, ease and accessibility that Arturia has brought to the plugin.

The hardware interface is designed to closely match that of the software, with sound edits performed using a bank of four rotaries labelled Brightness, Timbre, Time and Movement. To the right of these are four effect rotaries, each altering the depth of an effect module. While these controls each have secondary functions – altering volume and EQ for the sound parameters, and selecting/customising the effects – they represent the total sum of sound edits that can be made from the AstroLab's interface, aside from whatever parameter is mapped to the mod wheel. Beneath these sits a row of buttons used for quick presets selection and accessing playlists.

The other major element of AstroLab's interface is its central screen-equipped rotary. This is the primary tool used for navigating through the stored sounds and adjusting settings. The screen itself is bright and clear, although some may find it small. It's easy to scroll and click your way through menus and the currently-equipped virtual instrument is represented by a smart graphical image of its UI.

Much like in Analog Lab, AstroLab lets users find sounds in a multitude of ways. Patches can be listed by type, characteristics, by the source instrument used or via an artists list, which bundles patches into 'tribute' packs inspired by everyone from The Beatles or Stevie Wonder to Aphex Twin and Boards of Canada. Users can also organise patches for quick recall themselves, using a system of favourites and a more elaborate Playlist function,

THE ALTERNATIVES

Roland Jupiter-X £1,999

Although somewhat different to AstroLab in implementation, the Jupiter-X (and similar Juno-X) allows users to expand the sound set with digital emulations from Roland Cloud

roland.com/

Akai MPC Key 61 £1349

Another 61-key instrument running standalone software, albeit Akai's take is more workstation than stage keyboard, with sequencing and beatmaking at heart

akaipro.com

Nord Stage 4 Compact £3,599

A top quality stage keyboard, Nord's flagship has less of a broad sound palette than AstroLab, but offers more depth of hands-on control

nordkeyboards.com

whereby patches can be grouped into songs as part of a wider setlist.

At this point AstroLab doesn't just let users load a single preset at a time. The instrument has two patch slots, each of which can hold any stored sound. These can be arranged in layers – the volume of each adjusted separately – or split across the keyboard, the application being as easy as holding down the Split button and assigning the split point.

AstroLab is an instrument aimed first and foremost at performers. As such, playability is as important a factor as the interface or sounds, and AstroLab impresses on this front too. The instrument comes equipped with a semi-weighted 61-note keyboard that feels nice to play and responds to velocity and aftertouch. Some may bemoan the fact that the pitch and mod wheels are placed above, rather than to the side of the keyboard, but this comes down to personal taste. There are other nice touches to suit gigging musicians too – multiple pedal inputs, the option to run audio through the instrument via Bluetooth or an analogue input – the latter also allowing connection of a mic for use of the V Collection's Moog Vocoder – and the fact that the power connector screws into the unit to avoid being accidentally pulled out.

AstroLab feels thoroughly sturdy too, as you'd hope from a performance instrument. It also looks good, only marginally let down by the fact that close inspection reveals the 'wood grain' on its end panels to be a printed effect.

The highlight to AstroLab is the way in which it interacts with Analog Lab and the V Collection beyond its own internal engine. While the instrument itself is essentially bound to playing presets, the capabilities of the instruments it draws on puts it in a realm somewhat removed from other stage keyboards. While much of the collection covers 'staples' for performance keyboards – pianos, EPs, organs, vintage polysynths – it also spans multiple esoteric classics such as Buchla's Music Easel, the EMS Synthi, or early sampling workstations like the Fairlight CMI and Synclavier. These inclusions, among others, give AstroLab users access to a wider library of sounds that encompass everything from oddball synth sequences to ambient textures, percussive loops and modern cinematic orchestral sounds.

With connectivity via WiFi and Bluetooth, AstroLab is designed to

> There's nothing else out there that can offer breadth and convenience like this

ARPS, SCALES AND LOOPS

With most of the focus on the sound library and keyboard itself, AstroLab offers little in the way of bells and whistles, but there are a few additional features. There's an arpeggiator, which is fairly simple in its application but makes a particularly nice addition when playing layered sounds. There are also chord and scale functions, which make use of the light guide above the keys to indicate the currently stored chord shape or the notes that are applicable to the selected scale. One minor annoyance on this front is that changing presets always resets the chord/scale assignment, which can be irritating for auditioning sounds.

There's also a MIDI looper, which is disappointingly basic. It allows users to record and save loops of up to 32 bars to act as a backing track, which is handy, but there's no option to overdub or edit recordings. Basic sequencing functionality or parameter automation would have been nice too, but both are sadly missing.

seamlessly integrate with both desktop and mobile tools. On the latter front that equates to the new AstroLab Connect app, which is a well-designed tool for organising patches and playlists via iOS or Android. It also lets users browse, download and purchase additional sound packs and load them directly to the hardware. On desktop, the included Analog Lab Pro software allows access to the full library of patches in-the-box and transfer of sounds between the software and hardware. AstroLab comes loaded with some 1,000 patches but, according to Arturia, Analog Lab Pro offers access to over 7,000. Note, however, that at launch AstroLab does not include sounds from the latest additions to V Collection X.

Of course, owners of the full plugin versions of any synth – these aren't included with AstroLab – have the option to create custom patches from scratch, which can be loaded into the hardware just as easily as library presets. In this sense, the real jewel in its crown is Pigments, at least for those inclined to shell out for the plugin. You'd be hard-pressed to find a more versatile and capable software synth on the market than Pigments right now, the design of which includes VA, sampling, additive and wavetable engines, alongside a multitude of filter, effect and modulator types. While none of these elements can be accessed directly from the AstroLab hardware itself, for synthesists the combination of desktop and hardware creates a neat workflow whereby users can design synth patches of near limitless scope in the plugin, then easily move that sound – equipped with macros to control the core elements – across to the hardware for live performance.

There are a few caveats to this, created by the limitations of AstroLab's onboard processing. The most significant is that the granular engines in Pigments and the Augmented plugins aren't available. Some plugins' convolution reverb effects are swapped out for less demanding versions too. There are limitations on polyphony that differ from instrument to instrument. The pianos and organs are all 48-voice polyphonic, while polysynths – including Pigments – are 8-voice when used with the hardware. This also limits the unison mode. Some emulated instruments, such as the Buchla Easel, are monophonic.

At a fundamental level, AstroLab is a simple concept that's executed well. It puts ease-of-use, speed and versatility ahead of sound design depth – at least when it comes to the hardware – and the result is a package with a lot to offer gigging musicians and players who want access to a broad and interesting array of sounds. Admittedly, it has less to offer as a purely studio instrument; for all that it does well, there's little here that can't be achieved with just the plugin and one of Arturia's existing controllers, aside from latency-free monitoring.

There are other stage keyboards that have more depth when it comes to pianos and organs; and some may find the macro focus of AstroLab too limited. It's also, at launch, only available in 61-note form, so many player may choose to hold out for an 88-note version. But in combination with Arturia's wider plugin library, there's nothing else out there that can offer breadth and convenience like this. **FM**

INS & OUTS Rear panel connections include audio outputs and inputs, MIDI I/O, USB and pedal inputs

ROTARY SCREEN Despite being small, the central control is clear and effective for navigation

KEYBED AstroLab comes with a 61-note, semi-weighted keyboard. Surely an 88-note model will follow?

CONTROLS Parameter controls are mostly macros and largely mimic the design of the Analog Lab software

FM VERDICT

9.1

AstroLab is a well-considered and versatile performance instrument that sensibly prioritises ease-of-use above all else

Analogue Solutions Ample

£2,398

Is Ample more than just a greatest hits package from the AS back catalogue? **Simon Arblaster** reaches for the pins

CONTACT **WHO:** Analogue Solutions **WEB:** analoguesolutions.com **KEY FEATURES** All-analogue signal path with elements from Analogue Solutions' illustrious past including 3x VCO; 1x VCF; 2x LFO; 2x ADSR EGs; patch-pin matrix; vintage style 16-step sequencer; touch keys; onboard snare drum and pulse outputs **I/O:** MIDI (5-pin) In/Thru; 24x 3.5mm jack patch points; 1/4" jack output

THE PROS & CONS

+

Vintage-style sequencer and patch pin matrix

Percussive elements add an extra dimension

An all-analogue love letter to the golden era of synths

–

Patch pins are small enough to lose very easily and quite expensive to replace

The premium price point might put off some folks

For a long time, Analogue Solutions' synth output mostly consisted of the desktop variety, with now discontinued models such as Polymath, Telemark and Vostok giving way to the newer Fusebox X and Impulse Command. All of these can pride themselves on their pure-analogue signal paths (barring some post-effect circuitry) and a heavy nod to what is often referred to as the golden age of synthesis: the sounds of the '70s. However, Tom Carpenter's output of late has certainly switched gears in the size stakes. While the all-analogue sensibilities are unwavering, the newer Colossus and Maximus wear their monickers well. These behemoths are definitely once-in-a-lifetime type synths. So it's with this latest desktop instrument that we see those aspirations brought back to earth with Ample, a desktop synth that comes with some of the best bits from AS's back catalogue thrown into one. Ample consists of three VCOs, each with saw, triangle and square waveshapes, pulse-width modulation and the third oscillator can double as a second LFO. Controls for the ring modulator, noise generator and sub-oscillator level live within the Ancillary section, swiftly followed by the Filter section, home to a four-pole low-pass filter with the usual cutoff, resonance and envelope generator modulation controls.

All of which moves us neatly to the Contouring section, home to two ADSR envelopes that sit atop the VCA and Echo sections, with the latter taking circuitry cues from the Dr Strangelove effects module. According to the site, the main sound elements come from Fusebox, but it's not clear as to which parts so we'll just have to take Mr Carpenter's word for it. Controlling the sound is taken care of with the aid of the Pin Matrix, Patternator and Interval Generator. Patternator is a 16-step sequencer with rotary control, from Analogue Solutions' Generator sequencer, which was also home to the Interval Generator, and found here. As the name suggests, this

THE ALTERNATIVES

Erica Synths SYNTRX II £1,793

You want a patch matrix and a joystick?! Look no further than this reimagining of the EMS Synthi. No physical pins, but at least you won't have any to lose

ericasynths.lv

Moog DFAM £529

Ample bears a similar sequencer and percussive chime to Moog's Drummer From Another Mother. They're not entirely comparable in the specs or price stakes, but if two machines were ever destined to play well together...

moogmusic.com

Intellijel Cascadia £1,935

Cascadia doesn't lean as much toward the percussive as Ample, but here you get as much patchability to fully explore and get lost in East and West Coast sound. At a similar price, too

intellijel.com

six-button, touch-capacitive keypad generates six intervals that can be designated for pitch or modulation purposes. There's also a snare drum noise generator and fixed-pattern CV pulses that you can potentially either send out to external gear or patch back into Ample.

One of Ample's main USPs is the pin matrix, which let's face it, is fun to have on any instrument, let alone a synth such as this. The blurb tells us that this is borrowed from the Vostok and on further inspection it doesn't look like an exact copy, thankfully. Unlike the Vostok, Ample's pin matrix is nowhere near as fiddly and is far easier to read. Probably down to the fact that the pins are slightly larger and fewer features are patched within the matrix. The audio out section of the matrix lets you route the three oscillators and three ancillary sources back into the VCO1 sync, VCF and Ring Mod. It's in this section that you'll want to start patching Ample as you'll hear nothing until you plug in those oscs.

While we were first introduced to the Patternator with Generator (now discontinued), a sequencer that was available in both standalone desktop and Eurorack variants, anyone who's had time with either will be in familiar territory here, or any vintage sequencer for that matter. In Ample we are treated to one and a half of Generator's sequencing tracks and by that, I mean that you have a master sequence, up to 16 steps, and then a secondary sequence for the snare drum but the patterns will only be triggered if a step is selected within the main sequence. Pitch is controlled by the dials of Patternator whereas the steps themselves are triggered by using the four rotaries under the section called Beat. How Beat works is that the first dial selects steps 1, 5, 9 and 13; the second dial is for steps 2, 6, 10 and 14; the third for steps 3, 7… and so on. You get the picture. It's an interesting approach that's been explored in previous AS instruments and adds to the exploration factor here. At first, I found myself wanting to trigger the steps by simply pressing the encoders but getting more involved with Ample made me

> As soon as you patch those pins you instantly tap into a bygone era

The keys to the kingdom

Along with the vintage stylings of the Patternator, another component borrowed from the original Generator sequencer is the Interval Generator. From here, you can assign six different voltages and patch them to all three oscillators and/or filter cutoff and pulse width for VCO1. IG is the performance portion of Ample. Patching in the oscillators will give you the option to transpose the pitch of the sequence to be performed live. Note that these touch-capacitive keys are not triggers, so you won't be able to play Ample as you would with a traditional keyboard. For that you'll need to draft in the help of an external MIDI source. Dialling in pitches with the six rotaries isn't the easiest and will take time to get right. One way to tame the amount of voltage outputted is to experiment with the different impedance of the patch pins. This will affect the range of voltage at your disposal. You can achieve such varying results by switching out the black (0 Ohms) for the red (10k Ohms) and blue (100k Ohms). Then there's the option of pressing multiple keys at once, which further yields interesting results. It's a real hands-on experience.

realise that the Beat controls are way more fun. The Patternator has more than just pitch sequencing tricks up its sleeve and as such feels like the beating heart of Ample. There's also the option to patch the sequencer into the filter cutoff, then combined with the two CV depth controls located just below the sequencer rotaries you can get some real movement into the patterns. This works well when playing around with the snare drum sequence, adding accents to more complex patterns.

The snare drum (SD) and pulse outputs expand the sonic offerings of Ample. You can either patch the individual outputs back into the filter via the four VCF inputs or send them out and control other modules. Those four VCF inputs are a real boon and give you the option to route four external audio sources into the filter which can then be modulated by the sequencer. It's certainly a great way to glue patterns together, further expanding the sonic palette.

While there's plenty to like here, there are some (genuinely minor) notes. In its raw form, Ample is not the most 'musical' of instruments, it very much aligns itself to the esoteric percussive crowd. And while it's great at that job (and more besides), I'd possibly switch out the Interval Generator for the keyboard from Colossus. Which is probably physically impossible due to the size, but for my tastes, having a little more control over the tonality would be preferable. There is a workaround for this but it will require some external gear, specifically a MIDI keyboard. Connecting your own MIDI keys to Ample will let you play the root note for the Patternator and trigger the onboard EGs to play Ample more traditionally.

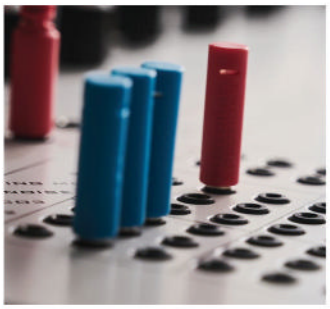
Out of the box, there's no physical manual or guide, which is annoying. A quick start guide would be a welcome addition here. There's also a distinct lack of patch notes and ideas, despite it being an upcoming feature of the website. Not to say that blind exploration doesn't come with, um… ample… rewards, but I think everyone would benefit from a helping hand.

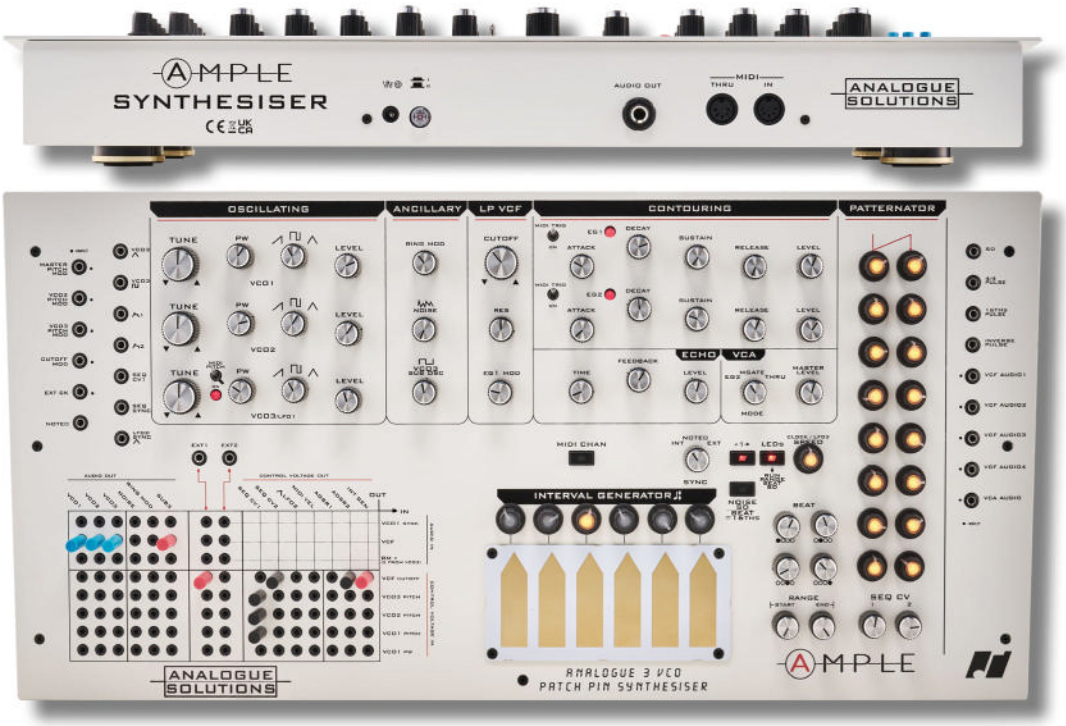
Another minor gripe would be the threat of losing the patch pins. Keep these little guys safe. The website states that Ample only ships with 15 pins (although this unit came with nine of each colour). That's five each in three different impedances (0, 10k and 100k Ohms) and as they're 2.5mm, you'll not find them elsewhere. A pack of 15 will set you back £35 from the AS site.

Ample is not exactly an AS greatest hits package, but combining circuits from previous and mostly defunct instruments keeps them alive and it's no doubt a great way to recycle existing componentry. But this isn't some kind of disjointed Frankenstein synth, assembled for the hell of it. The right componentry has been clearly chosen to create a very cohesive instrument here. Ample sums up what I love about Analogue Solutions' instruments: each has its own personality and shows off all that is good in all-analogue circuitry.

In a nutshell, Ample is ace and reminds us that the '70s was truly the golden era for synthesis. As soon as you fire it up and begin patching those pins, you instantly tap into a bygone era, wielding an EMS VCS3: it's chock full of explorative inspiration. Here, you can keep your digitally controlled rigidity, there's nothing but pure freewheeling analogue vibes (MIDI chip notwithstanding). That said, it's anything but a model from yesteryear. The percussive elements combined with a vintage sequencing experience still feel bang up to date if that's your bag – a good blend of old school/nu school if you will.

So whether you want to explore rhythms with the Patternator, Beat controls and patching the SD or Pulse outputs back into the filter, or just dimming the lights and switching up the VCA for an ambient drone marathon, Ample is truly a sonic wonderland. **FM**





PATCH-PIN MATRIX Your journey into sound with Ample starts here. Make sure to patch those VCOs into the filter first

PATTERNATOR The beating heart of Ample lies within this vintage-style sequencer. Then patch it into the VCOs or even modulate the filter

INTERVAL GENERATOR Dial in six individual voltages to transpose the pitch of your sequences or just modulate the filter, or both

PERCUSSION You can either patch the snare drum and pulse outputs back into the filter, or out to your existing modular setup

FM VERDICT

8.9

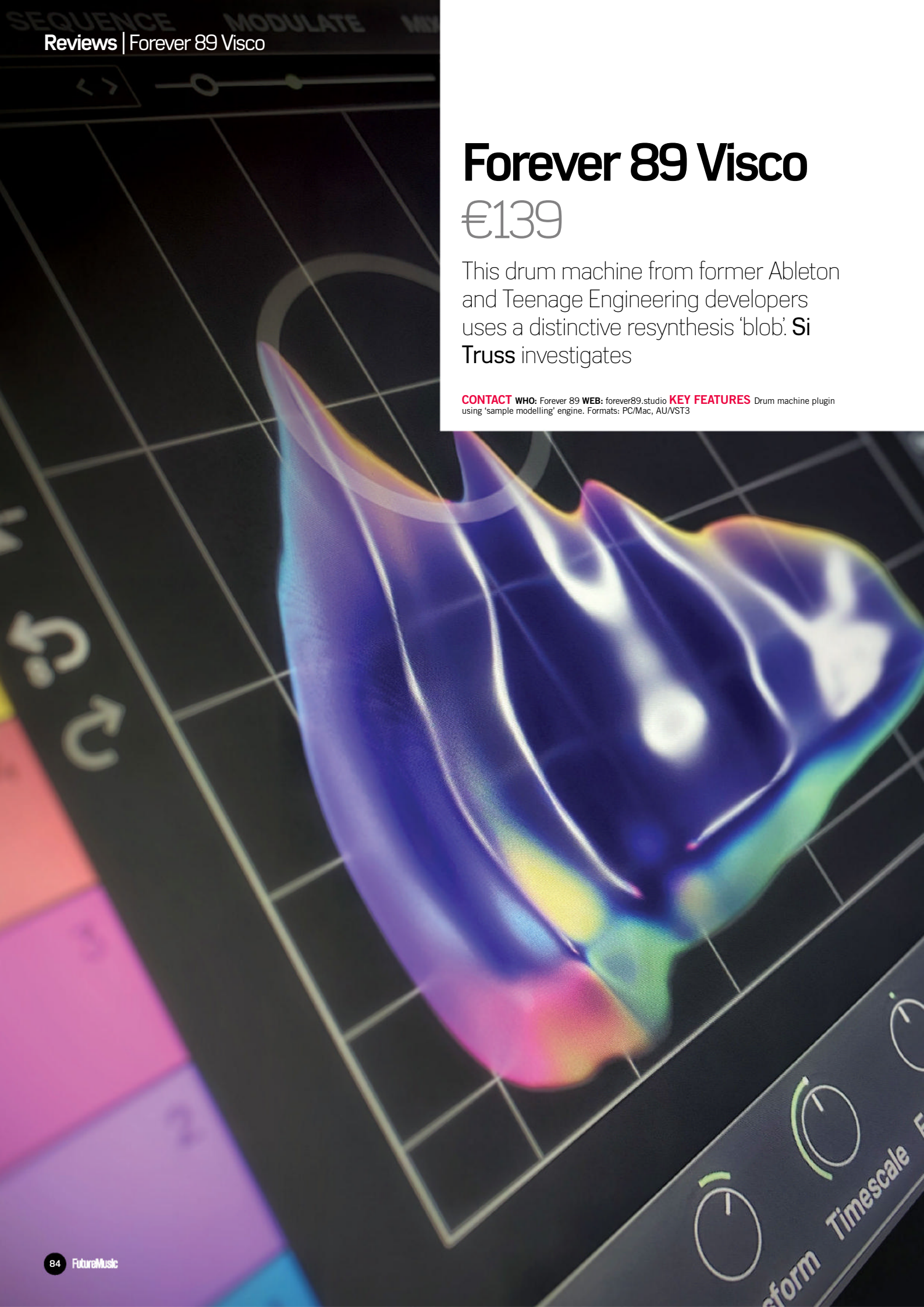
Ample is more than generously sufficient in the fun stakes. A veritable playground of vintage synthesis and exploration

Forever 89 Visco

€139

This drum machine from former Ableton and Teenage Engineering developers uses a distinctive resynthesis 'blob'. **Si Truss** investigates

CONTACT **WHO:** Forever 89 **WEB:** forever89.studio **KEY FEATURES** Drum machine plugin using 'sample modelling' engine. Formats: PC/Mac, AU/VST3



It's been a particularly exciting few years for drum plugins. In a space previously dominated by a mix of vintage hardware emulations, Battery-style samplers and faux-acoustic drum kits, an influx of recent plugins put a genuinely fresh spin on drum creation, from Audiomodern's Playbeat 3, with its smart randomisation tools, to Modalics' rhythmically creative Beat Scholar.

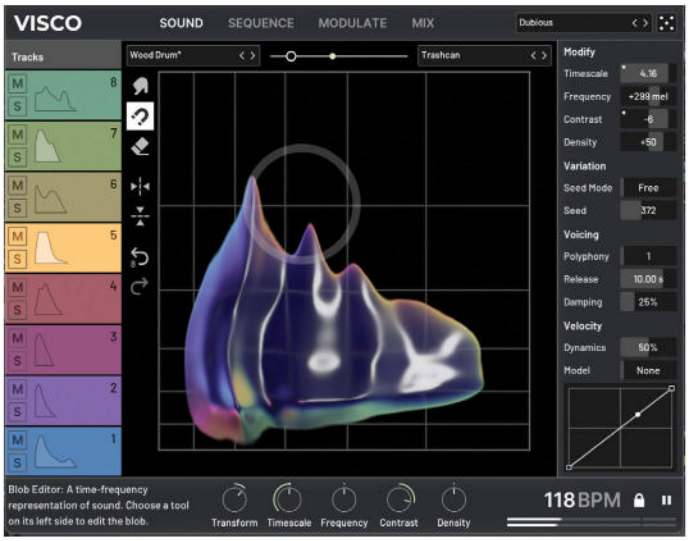
Enter Visco, a virtual drum machine from Forever 89, a new Berlin developer founded by ex-Ableton and Teenage Engineering employees (the name refers to the era of creativity that followed the fall of the Berlin Wall.)

At core, Visco is based around a fairly standard drum machine setup – it has eight tracks, which use samples as their primary source, accompanied by a grid-based sequencer, mixer window and effects. Beyond this level, however, Visco is doing some very interesting things. Rather than simply playing back the samples themselves, the plugin uses a method its developer calls 'sample modelling' to resynthesise each sound so that it can be manipulated and modulated.

This process is visualised by something Forever 89 calls 'the blob'; a dynamic two-dimensional shape that represents each sound across time and frequency axes. This blob can be shaped using some visual-style manipulation tools, which let users drag, attract, repel and flip its shape. Each sound has two layers too – essentially two separate sample models, each with its own distinct 'blob', which can be blended using a crossfader.

Despite the aesthetic appeal they add to the design, these 'blob' manipulation tools are the least interesting part of Visco's workflow. More effective are the more traditional sound controls to the right. Here, each sample model can be radically manipulated, stretching duration and frequency content, as well as adjusting contrast of tonal or noise elements. Randomisation can also be applied to noise elements and you can apply precise control over dynamics and velocity.

Equally interesting are a collection of global macros along the bottom of the UI. These can be used to alter the balance between samples, the length, frequency,



contrast and noise density of all sounds simultaneously. These elements are all best combined with Visco's powerful modulation section, which offers multiple envelopes and customisable LFOs that can be routed to individual sound parameters or the macros to create truly dynamic and evolving sounds.

While simple, the sequencer is nicely effective too, making it easy to adjust the velocity and length of each trigger. A randomisation tool is a nice touch too, great for inspiring new patterns and rhythms.

These tools make Visco a really interesting, effective drum machine. Its emphasis on dynamics and variation make for genuinely natural-sounding patterns with acoustic drum sounds. It's best when pushed to unnatural extremes though – try loading wildly disparate samples into each track's two sample slots, push the frequency and time controls to their limits and set up some modulation, and you'll soon find yourself creating brilliantly odd and creative sounds you're unlikely to generate anywhere else. FM

FM VERDICT

9.2

A novel and powerful new take on drum generation, Visco sounds thoroughly modern and dynamic, and is well worth exploring

THE PROS & CONS

+

Natural and dynamic sound

Great for pushing sampled drum sounds to unique extremes

Good selection of modulation and sequencing tools

–

'Blob' edit tools aren't as effective as the more straightforward parameter options

Kali Audio LP-6 2nd Wave £185 each

As Kali revisits its nearfield monitor, **Simon Fellows** finds a near-perfect balance of performance and price

KEY FEATURES **AMP CLASS:** D **HF POWER:** 40W **LF POWER:** 40W **TOTAL POWER:** 80W **HF DRIVER:** 1" Textile Dome **LF DRIVER:** 6.5" Optimized Paper **FREQUENCY RESPONSE (-10 DB):** 39 Hz - 25 kHz **FREQUENCY RANGE (±3 DB):** 47 Hz - 21 kHz **MAX SPL:** 115 dB **ENCLOSURE:** Front Ported **LF HEIGHT:** 14.125" (35.9 cm) **WIDTH:** 8.75" (22.2 cm) **DEPTH:** 10.25" (26 cm) **WEIGHT:** 16 lbs (7 kg)

The first gen LP-6 was easy on the ears yet light on the pocket, making it hard to imagine how Kali's engineers could improve on it without a substantial uplift in price. Well, they did it, the LP-6 2nd Wave boasts some notable upgrades, for below $199/£199 per unit.

For those not familiar with the original, the LP-6 is a powered, nearfield monitor that's just as at home in a bedroom studio as it is in a multi-channel, immersive setup. It delivers 80W total power via a class D amp, a 1" tweeter and a 6.5" driver. Notable improvements this time around include a 12dB reduction in self-noise, a thinner paper woofer for faster transient response, and a redesigned amp that Kali says enables more robust DSP for smoother, more accurate high frequency tuning.

The development team chose not to mess with the existing 1-inch tweeter, nor the high output, low distortion, dual-layer voice coil. The front port, shaped like a grin, is still there too, smiling generously. Overall, with this iteration, Kali has kept the good stuff intact, while upgrading choice components to increase accuracy and lower noise.

The test unit I have been sent is finished in bright white with a black woofer cone. A more traditional black-on-black finish is also available, which is probably the better choice if you're going to pair them with Kali's 'any colour you like provided it's black' WS-6.2 Sub.

The bulk of the enclosure is made from medium density fibreboard (MDF), wrapped neatly in subtly textured vinyl. The front, save the drivers, is a big slab of plastic and there's a metal backplate securely screwed to the rear. The LP-6 looks tidy, well-made and attractive but judged on appearance alone it's no premium monitor – let's just say the product design team at Focal are unlikely to be choking on their croissants anytime soon. Which is fine, because the LP-6 is unashamedly a budget monitor that ships with an affordable price tag.

Setup, however, is a first-rate experience. First, the LP-6 features a variety of inputs – TRS, XLR and RCA – which is an absolute godsend if, like me, you own a drawer full of cables, but never the right one. Second, and more important, that front port enables close placement to a back wall, a common scenario in most small studios.

Kali has programmed the LP-6 with eight boundary EQ options, enabling you to compensate for installation on a desk with stands, tight against a back wall, 20"/50cm from a back wall and so on. These EQ settings, together with those for high and low frequency trim, can easily be selected by setting an external array of dip switches.

My test pair were remarkably low on self-noise – you really can work up close to these monitors. Similarly, forward-facing ports often get a bad rap for introducing air turbulence noise but I didn't experience this or marked bass compression. The LP-6'S response curve is pretty flat, with a slight dip at 700-900Hz, which is why I heard little character, just accurate, transparent tone. Exactly what I look for in mixing. FM

FM VERDICT

9.5

A great choice for mixing on a budget, the LP-6 is a super monitor that's impressively quiet, accurate and characterless

THE PROS & CONS

+

Uplift in sound quality with no uplift in price

Lower self-noise than the previous version, and more accurate too. Transparent, characterless sound is perfect for mixing on a budget

Versatile placement. Front port and boundary EQ settings enable the LP-6 to be positioned almost anywhere you like

–

Finish is good for the money but not premium. However, it's well built

DIP switches can be fiddly, but setting the boundary EQ is a one-off job

No matching white sub available for the white LP-6

Noise Labs Wrinkler mk2

£280

Can this module "fold, wrap and bend" to **Rob Redman**'s whim?

CONTACT **WHO:** Noise Labs **WEB:** noiselab.io **KEY FEATURES** Multi-mode waveshaping, Capable of folding square waves, CV controllable, Ring modulation

The relatively new Eurorack company, Noise Lab, has already established itself as a developer of excellent quality modules. The original Wrinkler is a fantastic module but, not one to rest, Noise Lab has released an updated mk2 version, which offers a lot of extra tone-shaping tools.

The 12hp module is only 26mm deep and draws 41Ma +12V and 42Ma -12V, so it's suitable for almost any case out there. Everything is solid and confidence-inspiring and pots and switches have a pleasing level of resistance and engagement.

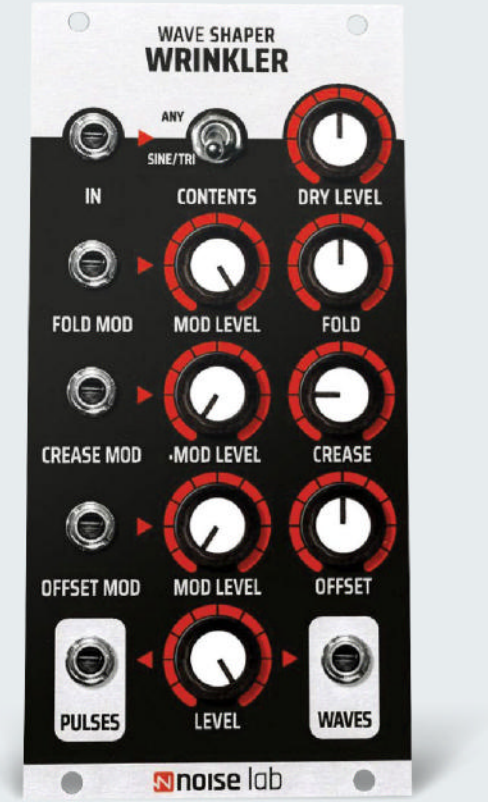
Wrinkler mk2 is a wavefolder, much like those from the Buchla West Coast camp, but with a few extra treats for the sound designer. It takes an incoming signal from your VCO and processes it to increase harmonic content. There are many modules that do this but Noise Lab has managed to develop something that sounds a bit special, while offering options you don't often see.

The basics of Wrinkler act as you might guess, taking that incoming signal and, with a twist of the dominant fold knob, adding increasing levels of complexity to the output wave shape. That in itself is a powerful and fun sonic tool, especially when modulated. This gives a lovely sense of movement and evolution to your sound. Wrinkler does this very well and very controllably, with different modes, depending on what you want to achieve. On top of the mode options is a symmetry control that allows you to define where on the original wave shape the folding happens. This is also CV-controllable (all CVs have attenuverters, for dialling precise parameters) and is one of the key controls for producing the gorgeous tones this module is capable of.

Some modes have a strong effect on the output of Wrinkler but there is a gain control to counter this and you can use it as a VCA, always a perk when a module allows for this.

One aspect of Wrinkler is its ability to fold square waves and this makes it a wave-folding module destined for success, as it sounds immense. Dialling in a tone is a doddle. The fascia may not be littered with dozens of controls and patchpoints but what it does have is so well-implemented and thoughtfully laid out, that it's easy to see what you're doing. Adjustments are simple to apply but have a huge palette of consequences, making this a must-have for the sound designer.

You can even get Wrinkler to sound somewhat like a super saw, using the feedback knob. This is dependent on the incoming signal of course, but it offers another level of versatility, which is welcome. **FM**



THE PROS & CONS

+

Great build quality

Lots of tone-shaping opportunities

DC-coupled so can be used to shape CV

–

Feedback knob can be obscured by patch cables

FM VERDICT

9.0

For those hoping to explore more of a West Coast vibe, adding harmonic complexity to their basic oscillator output, look no further

Modbap Per4mer £399

Is this live-focussed module a star performer, asks **Rob Redman**?

CONTACT **WHO:** Modbap **WEB:** modbap.com **KEY FEATURES** 4 effects plus sidechain compressor, Arcade-style physical triggers and CV inputs, Clock input, Colour button for extra effects

It may be relatively new to the scene, but Modbap Modular is already making waves. Its initial range of modules includes Per4mer, a DJ-inspired multi-effects device, with live play a focus.

To accommodate the performance aspect, the design of the module is dominated by four arcade-style buttons, each of which can be used in momentary or latched mode. These can be activated in any combo of one to four effects at any given time. It's oddly satisfying bashing those buttons and it adds a playful nature to a modular system that can otherwise lack playability.

But if you prefer to patch than bash, Per4mer has you covered too, with CV gate inputs for the four effects as well as separate CV inputs for the four knobs that are used for setting the effect's attributes; things like wet/dry mix, time/clock division and pitch etc. There are other attributes such as envelope attack and release but these can only be altered with a shift/knob combo, rather than CV. However, in most cases that won't ever be an issue.

Physically Per4mer makes a lot of sense. It's tactile, well labelled and logical but some may not appreciate the patch points being on the bottom. The options here are to install upside down but that leaves labelling flipped too. A better solution would be to use 90 degree patch cables, reducing irritating cable clutter and easing access to the buttons.

The effects on offer start with delay, with wet/dry, delay time, feedback and low-pass filter (for the delays not the original audio). Delays sound somewhat digital in a good way. Clear and clean. Next up is a lush-sounding reverb with wet/dry, reverb time, decay and pre-delay. Reverbs can be short and subtle right the way through to almost shimmery and spacey. Then there's Glitch, which again has a wet/dry control, a clock division, plus or minus two octaves and forward or reverse. The glitch effect is pretty cool and allows for on-the-fly mashing of incoming audio. Last of the four button-triggered effects is Tape Stop, with controls for wet/dry, stop speed, stop curve shape and low-pass cutoff. The range of speeds is impressive here with super short, almost clicky stops and nearly seconds-long ones.

Also onboard is a compressor with sidechaining and a colour button, possibly Per4mer's secret weapon. This takes the output signal (which is stereo) and adds further effects to it. These can only be applied singularly but all eight sound lush and lo-fi. Modes are signified by a coloured LED and include Classic, Lo-fi, Saturation and a couple of vinyl effects, noises and filters.

Lastly there are patch points for clock in and sidechain, plus two inputs, rounding off a pretty comprehensive module.

All sounds and colours can be dialled in from subtle to (possibly) absurd. Dial in chillwave or add a little retro flavour to house patches and start bashing buttons. Lots of scope for modulation, either manually or via CV, makes this a versatile effects unit. Well done Modbap! **FM**

THE PROS & CONS

+

Immediacy of effects for live use

You get a lot of effects for 14hp

The colour options sound joyfully retro

Modbap are very responsive to user queries or feedback

–

Patch point placement not ideal for some users

FM VERDICT

8.0

An excellent multi-effects module, catering for live use and a range of genres. Plus it contains a few hidden gems feature-wise

SSL UC1 and 360 Link £569

SSL's UC1 is now capable of controlling all of your plugins thanks to the company's new (and free) SSL 360 Link plugin. **Andy Jones** asks if it's time for a reappraisal?

CONTACT **WHO:** SSL **WEB:** solidstatelogic.com **KEY FEATURES:** 30 rotaries offer dedicated control over SSL 4K B, Channel Strip 2 and Bus Compressor 2 plugins (included). Now controls any 3rd party plugin via free 360 Link **DIMENSIONS:** (W x H x D): 300 x 61 x 266 mm; **WEIGHT:** 2.1kg

SSL's UC1 controller was released around three years ago, and is a direct knob-per-function interface for controlling the SSL Channel Strip 2, 4K B and Bus Compressor 2 plugins.

The central part of the UC1 controls every dial on the SSL Bus Compressor plugin, while the left and right sides control the EQ plus compressor, limiter and gate parts of the Channel Strip plugins.

It's a neat device and does a cracking job of directly controlling those plugins in your DAW, even allowing you to switch channels to control multiple instances. There's also good feedback on what is being controlled (and how much) on the UC1 hardware itself.

Essentially using UC1 and its plugins gives you the tactility, sound and feel of a large format SSL console, but one plugged into your DAW. What's not to like?

Only one thing, really: that UC1 was initially dedicated to just those SSL plugins. However, the controller has now been opened up to work with all third-party plugins, thanks to SSL's new 360 Link software.

When setting this up, you first need to make sure you have a few plugins in place and updated. This is initially confusing, but installing the latest version of SSL's own software Download Manager is your first step. Then use that to install both SSL 360 and 360 Link (both of which are free). And if you have any other SSL plugins installed such as the original Channel Strip 2 and Bus Compressor 2, now is the time to update them as well. Finally you'll need to update the UC1 firmware via the SSL 360 software, and enjoy the unit's light show as it reboots.

SSL's 360 Link plugin is the focus of this review as it's this that acts as the shell between UC1 and third party plugins. When you first load 360 Link, it has to scan your plugin collection: it initially crashed, perhaps not surprisingly given the size of our plugin collection.

Link then highlights the plugins it has maps for. In our case, these were mostly SSL and Waves plugins, though it has factory mapping for UAD, Brainworx and Slate Digital.

Once you select your compatible plugin, it can then be opened up alongside 360 Link. Sure enough, the hardware UC1 controller does indeed control every parameter, with both the dials in 360 and the plugin moving according to the UC1 dials.

The tactility of an SSL console, plugged into a DAW

You also get six additional mapping options at the bottom of 360 Link which allow the UC1 to access different sets of parameters if, say, your chosen plugin has a lot more controls under its hood.

A configuration window can be opened so you can see which parameter is mapped to which control, and these can be altered in the User Mapping mode. Most importantly, it's here that you can create new mappings for plugins that aren't already set up.

You can add whatever plugins you like, although you'll be able to achieve a more natural console 'feel' by mapping UC1 to EQs, channel strips, compressors and other mix plugins. That being said, any VST3 effect can be mapped, and it's a very easy process.

360 Link really does bring a lot to the UC1 party and existing UC1 owners will love the new stuff.

As to whether you now need UC1 in your life? You do get three great SSL plugins that almost justify the UC1 price, and the extra control now widens the unit's remit. But if you're just looking for hardware control over your plugins, there are cheaper options out there. **FM**

FM VERDICT

8.2

Fantasic for those who like the feel of console mixing and the SSL sound. And it now delivers a lot more control for the cash

THE PROS & CONS

+

Great-sounding SSL channel strip and bus compressor plugins included

SSL 360 Link now means you can control all your plugins with it

Very easy to map new plugins

–

Expensive compared to other controllers

Quite a lengthy setup process; watch the great SSL videos before you start

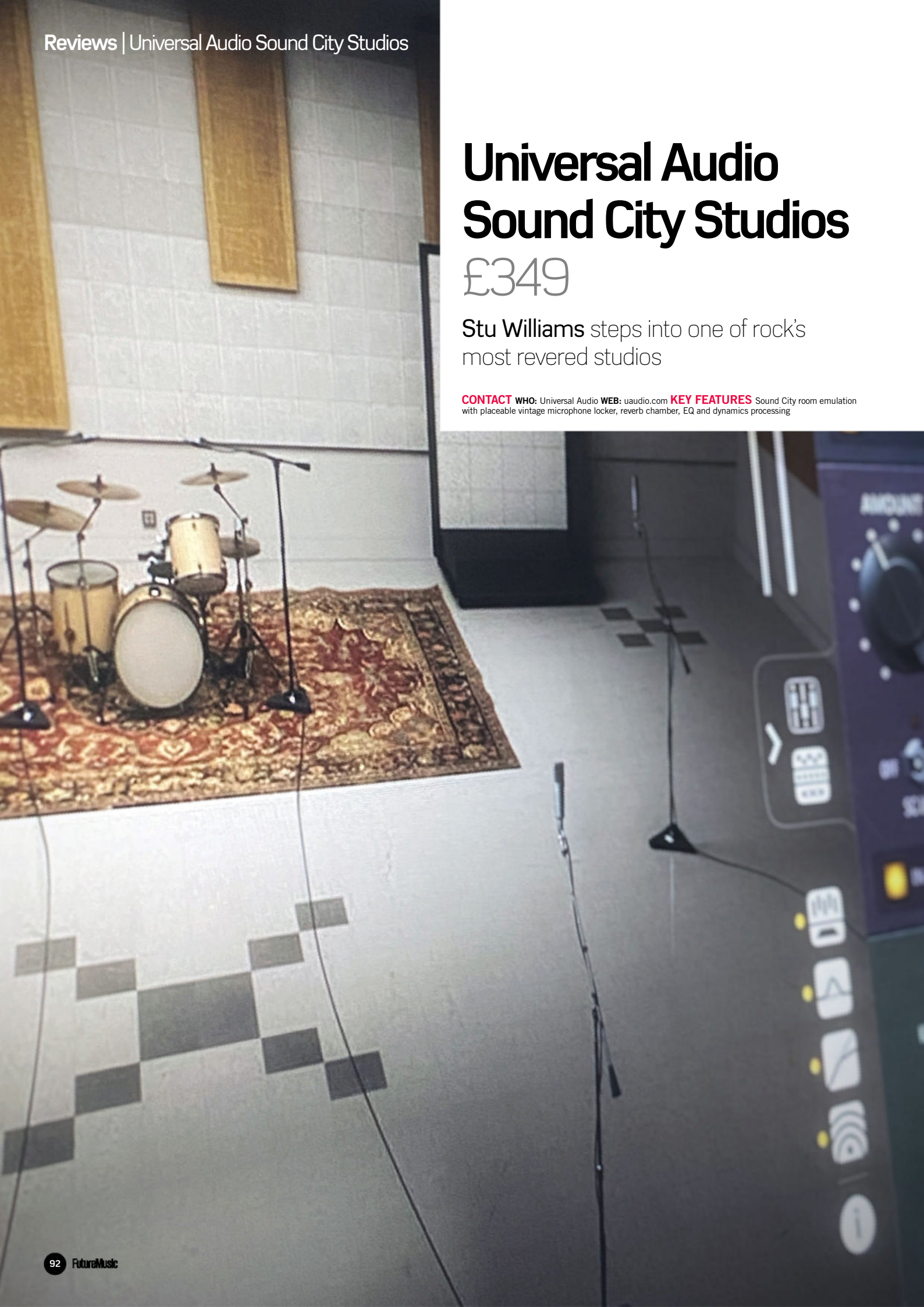
Best used with other channel strips, compressor, EQ and mix plugins

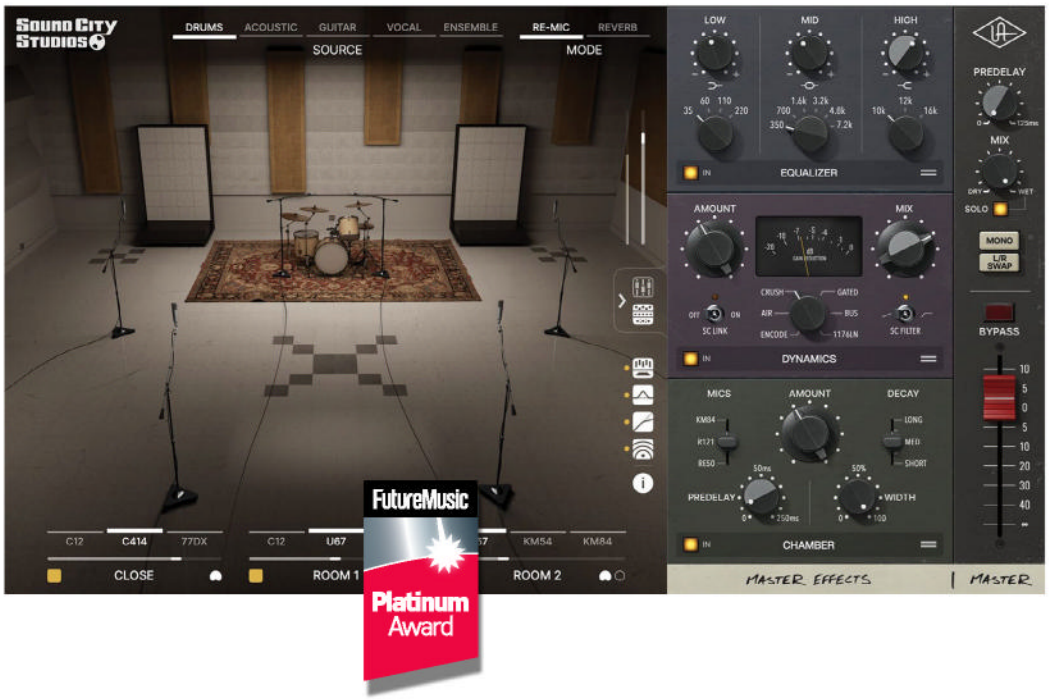
Universal Audio Sound City Studios

£349

Stu Williams steps into one of rock's most revered studios

CONTACT **WHO:** Universal Audio **WEB:** uaudio.com **KEY FEATURES** Sound City room emulation with placeable vintage microphone locker, reverb chamber, EQ and dynamics processing





If you have even a passing interest in the recording of rock, there's a very strong chance you've heard of Sound City Studios; Tom Petty and The Heartbreakers, Fleetwood Mac, Rage Against The Machine, Metallica are just a few of the artists who have holed up at Sound City. But, perhaps most famously, it was the studio used to record Nirvana's *Nevermind*, and Dave Grohl himself immortalised Sound City in his documentary of the same name.

Now, those wizards at Universal Audio have captured the qualities of Sound City's Studio A and made them available as a plugin for us to immerse our tracks in rock history. It's available as a native plugin, and works on the same principle as UA's other 'room modellers', offering two modes of use. First is Re-Mic, which virtually places your audio tracks in the environment. The second is Reverb mode, which blends the Sound City-effected signal back in with your original signal.

Inside the plugin, we're presented with a 'Studio View'. From here, you can select the source that you're applying the room sound to (drums, acoustic, guitar, ensemble). Each of these is configured for the application, with multiple options per category using different parts of the room, introducing gobos and offering different microphone selections.

At the bottom of the screen, there are controls for three virtual mic positions: Close, Room 1 and Room 2, with the ability to change the mic type from a top-class menu of models from AKG, Neumann, Shure, RCA, Beyerdynamic and more. These are pre-configured to their positions, based on tried-and-tested configurations used by engineers who have used Sound City. So while positions are swappable, you can't go completely à la carte.

The virtual mics can be moved on this screen by simply dragging them closer to, or farther from the source. In addition to this, where applicable, you can change the mic's polar pattern, as well as the volume blend-all from the Studio View.

There's also a mixer section, which gives mic-distance control on a dial, plus the ability to time-align the three sets of mics, along with high and low-pass filters and phase-inversion per-channel. It's also equipped with a set of processing modules including a three-band EQ, compressor, and an emulation of Sound City's reverb chamber.

That's a lot. But in use, it's all very easy: select a mic, move it (or don't) and blend them together. We tried it on a number of sources including acoustic drums, guitar and vocals, and while we've witnessed UA's room-capturing magic before, it's still mind-boggling when you load it up. Most impressive was the effect it had on our drum tracks, which, as is often the case, were captured in a small space without a lot of physical distance needed for a large room sound. Used in Re-Mic mode, it applies an entirely new shape to the sound, adding size and air, and a gloss of 'big budget' to our modest drum recordings. At times, it can be a bit *too* much – similar to having a reverb depth set too high, but this is easily alleviated via channel filters, EQ and time alignment (if you want to clean up the natural time distance between each mic position).

Overall, Sound City Studios is a huge weapon in the arsenal of anyone recording in small spaces. There are so many ways to use it: on individual tracks, stereo or group busses as an immersive replacement, or as a parallel bus blended in with your dry tracks, and that's before you even start tweaking the specifics. UA offers a free trial, and we dare say that once it's run out, you'll miss it enough to buy it outright. **FM**

FM VERDICT

9.0

Dream of recording in a prestige studio? This easy-to-use software may be your ticket to the big time for a (relatively) attainable price

THE PROS & CONS

+

The Sound City DNA, applied to your own tracks. Is it faithful? Absolutely

Way more than just a reverb. Plenty of mic options, an emulation of Sound City's reverb chamber, plus dynamics and EQ

–

A lot to get your head around with tweak-ability at every turn. But it's easy to use and UA has stocked Sound City with dozens of presets

Not cheap at the full price, but UA offers regular reductions throughout the year, and it's included in a Spark subscription

Native Instruments Electric Keys – Tines Duo

£129 or individually for £89

Some might ask: does the world really need another Fender Rhodes piano library? I might even be one of them. However, I am also in the very fortunate position of owning a 'real' Rhodes Mark I Stage 73. But the truth, in fact, is not quite as straightforward as you might think.

As any 'tine-ophile' (my made-up term for Rhodes lovers) will be aware, there are differences in tone between models and across different dates of a manufacture. To give you some measure of this, each key relies on a tone bar, tine and pick-up to generate its tone, and altering their relative positions dramatically alters the sound (especially the attack) of the note; and this is before you get into the world of hammers, dampers, grommets and springs or delve into how they are actually recorded.

What we hear on records we love may be quite a long way from what we hear if the raw output of one of these classic electric pianos is plugged into an audio interface. Players have often tailored their tone with effects such as phaser, wah, chorus or distortion pedals, or the built-in opto-tremolo built into some of the Suitcase models. With so much variation to contend with, it's not surprising that there can be so much debate as to the merits (or otherwise) of any given Rhodes patch or library.

This all brings us to Electric Keys by Native Instruments. As the name suggests, it consists of two products, subtitled Phoenix and Diamond. Phoenix captures the sound of a Rhodes Stage piano, while Diamond is dedicated to a rarer Suitcase model from 1967.

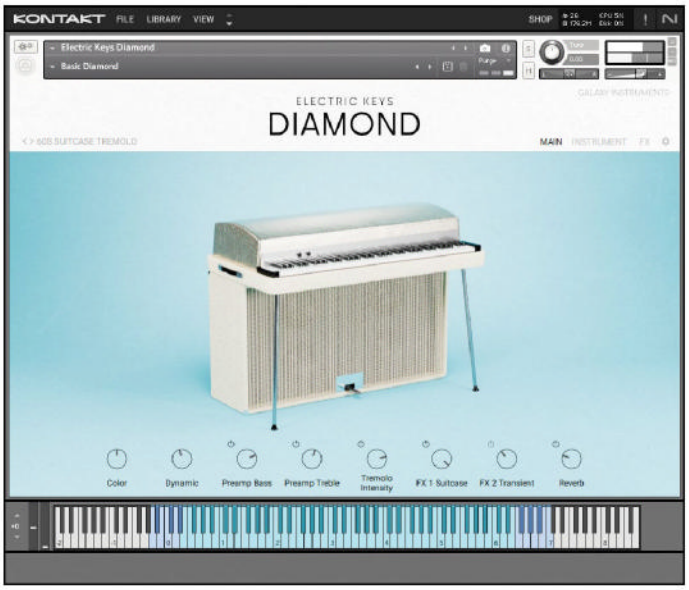
Other than the GUI photos and largely generalised description (that notably makes no reference to the Rhodes name) there is little further information that's available on the specific hardware that has been captured. Needless to say, though, that NI collaborators Galaxy Instruments have been responsible for some notable, and highly-regarded, libraries such as The Giant, Piano Colors, Mystery and Noire, so the track record is a strong one.

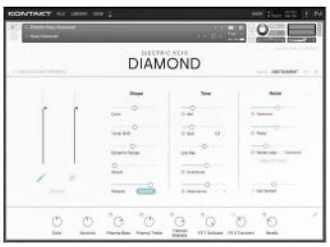
In terms of tone, Diamond is more mellow, while Phoenix falls more squarely into the recognisable 'classic' area. That said, the Kontakt interface in both cases offers a lot of options for altering the overall sound and response of both instruments. Most of these are more than simple EQ-style flavouring and add extra 'bell', 'sub', 'overtone', 'resonance' and various noise samples to alter the sound in a highly controllable way. Additional shaping is provided by amps, cabs and effects taken from Guitar Rig 7. There are plenty of snapshots that can help get you started, but tweaking is clear and straightforward, even in the face of the plentiful options.

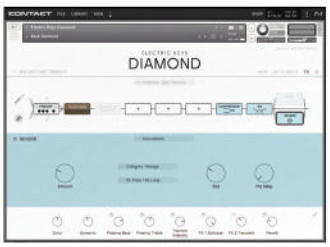
I really enjoyed these new Rhodes instruments, and found them highly playable and flexible in both contemporary and old-school production settings.

Bruce Aisher

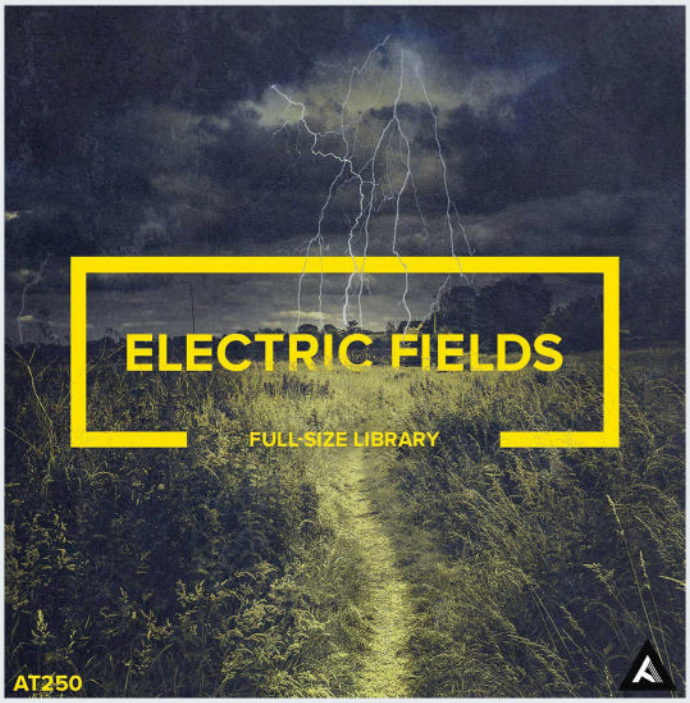
native-instruments.com







Audiotent – Electric Fields £45



Super-charged selection of shockingly good electro beats and bleeps, for next-wave techno bods to plug into.

The atmosphere is electric. And the 555 WAV loops and 185 single drum hits all shine brightly, with a real showcase of pumping samples, jacking drums, and glitchy vocals, stabs, and synths on offer.

There are cyber sounds and haunting, deep and dented synth plonks to plunder, with a whole gang of other high, glassy, tops and percussion to weave into the mix.

The near perfect '80s bass and robot-rocking rhythms will have your tracks amped in no time. With all corners of this full-sized library stacked with plenty of high-voltage, genre-spanning noises, custom-built to light up your darkest dancefloor ditties.

A real dynamic toolkit that you'll have a field day exploring. *Roy Spencer*

audiotent.com

VERDICT 9.0

Splice Originals – Breaktapes Vol 2 with Sean Hutchinson From $12.99/month

The latest drum pack from the guy with recording credits for Bruce Springsteen and Taylor Swift is as high quality as you'd expect. Recorded in his Brooklyn studio, and miked to perfection, his big beats take in some real neck-snapping breaks. With toplines and percussion, funky hats, fills and other hits thrown in for good measure.

The playing is so in-the-pocket you should dust it for lint. From clean, snare-heavy grooves to more grimy eight bars, full of personality. It makes for a nicely stacked wet and dry drum kit, if you're looking for a lively loop library. He even twanged out a few bonus riffs for you. The Boss would be proud. *Roy Spencer*

splice.com

VERDICT 8.0

Field & Foley – Pottery Percussion From $12.99/month

If you're finding the same old tambourine sounds a bit tame, then this is the sample set to up your percussion game.

Full of plinky pots, tapped on for rhythms, this collection of kiln-fired sounds has a ceramic tone you just won't find anywhere else.

There's everything from full loops to single hits, covering high notes and deeper bass twangs. And some sounds were captured by the Splice team on a recording trip to Indian pottery studio in Delhi, giving extra real-world character.

The clay-based instruments used on all the sessions are treated with roomy reverbs and ambiance. Some have an almost metallic tone. A strange shelf of samples for adventurous beat-sculptors everywhere. *Roy Spencer*

splice.com

VERDICT 7.0

Frontline Producer – Stoner Rock £29.95

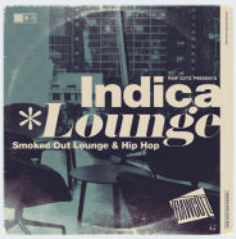
Another rich resource of rock nuggets for your samplers, with all of the tunes here fusing that doomy, acidy, psychedelic '60s-forged metal, beloved by the most fabulous of freaks.

The 90-120bpm loops in here are awash with a dense, purple, hazy fug, with all of the live drums, axe-wielding, fuzzed out riffs channeling the great unwashed rock gods of this and yesteryear. You can feel the inspiration drawn from '80s icons like Kyuss, up to more modern stone-age queens, like Josh Homme.

There are hard hits and softsynths plus keys to finger through, plus cool mixed percussion, taking in tambourines, tablas, and more. If you like spacey guitars, expansive chords, and splashy drums, you'll dig this. *Roy Spencer*

loopmasters.com

VERDICT 8.0



Raw Cutz – Indica Lounge £24.95

From a title that honks of the sticky-icky, to the bevy of blunted beats inside, this is one pungent pot of smoked out samples. There's a ton of jazzy, shuffling drums. Slinky-ass keys.

And a warm wealth of atmospheric pads and rolling soundscapes to pick through. Dig deeper, and you've got cool bass riffs to handle your bottom-end, plus sublime strings and guitars to glide on top.

The mood is mad groovy. And, if you squint through the musical mist, you can almost see cats like Anderson .Paak picking up the sticks to get down on these silky sonics.

If you like your downtempo hip-hoppy, fly and funky, then fire up this laid-back pack. It's a must for beatmakers with a love of languid loops. *Roy Spencer*

loopmasters.com

VERDICT 8.0

ABLETON LIVE CONTROLLERS

Ableton Push
From $999

Review: FM397 | Push finally lives up to Ableton's vision of controller-as-instrument, and standalone mode is a great new way to use Live.

Akai APC64 £339

Review: FM402 A fabulous evolution of the classic APC form, and the standalone functions will bring it into all kinds of new situations.

Novation Launchpad X £180

Review: FM356 Neat, compact and more flexible than ever before, the Launchpad remains a must-try tool for Ableton Live users.

Novation Launch Control XL £150

Review: FM285 Slightly long in the tooth and less slick than the current gen 'launch' range, but still the best mixer-focused device for Live.

Novation Launchkey Mini £100

Review: FM349 The Mk3 is a small but perfectly formed MIDI controller that works great with or without Ableton Live.

HARDWARE EFFECTS

Elektron Analog Heat +FX £829

This revamp of Elektron's analogue distortion adds a full chain of effects that can be fully reordered and modulated for wild, transformative results.

Eventide H90 £935

Review: FM394 Countless synthesists swear by Eventide's H9 pedal, and the H90 builds on the format by placing two H9 processors in one box.

OTO Bam €480

Review: FM314 This characterful digital reverb unit is the highlight of boutique effect brand OTO's all-round impressive range.

Korg Monotron Delay £49

Over a decade on from its original release, Korg's analogue ribbon synth/delay processor remains a must have, and the best way to spend £50.

Dreadbox Hypnosis €220

Review: FM353 Dreadbox's brilliantly old-school analogue delay and modulation processor, now reborn as an affordable DIY kit.

DIGITAL POLYSYNTHS

Waldorf Iridium Core £1,555

Full Review: FM406 | Undoubtedly one of the best-sounding and most versatile synthesisers in recent years. The compact Core will be a hit with desktop producers.

ASM Hydrasynth Deluxe £1,489

Review: FM383 The Deluxe is a great-sounding, flexible polysynth, ideal as a performance-led keyboard that can successfully reach a wide range of tones and textures.

Arturia MiniFreak €599

Review: FM405 (v2.0) Newly updated with a wavetable engine and Super Unison effect, Arturia's hybrid synth is more fun and versatile than ever.

Roland Jupiter-X £2,432

Review: FM396 A fabulous-sounding instrument that, despite being 100% digital, manages to capture the spirit and grandeur of its famous analogue namesake.

Korg Modwave £699

Review: FM373 (MkI) Modwave is the most innovative hardware wavetable synth on the market, enhanced for MkII with an expanded voice count and increased flexibility.

COMPACT MONITORS

IK Multimedia iLoud Micro £250

IK's Micro monitors are compact and portable but offer surprisingly powerful and high quality sound. Room correction EQ is handy for on-the-go use too.

KRK GoAux 3 and 4 from £280

Full Review: FM394 A great solution for those on the move or short of space. Not the cheapest, but reasonable value, with flexible features.

Genelec 8010A £270 (each)

These distinctive compact monitors are a modern classic for small spaces. Not cheap, but far more 'pro'-sounding than size suggests…

JBL One Series 104-BT £150

Review: FM346 The One Series 104 is a stylish compact monitor that delivers decent sonics, flexible connectivity and solid build, all at a very attractive price.

Focal Solo6 ST6 £1,149 (each)

Review: FM396 For their size, these are sublime, top-drawer little monitors that will be an asset to any small studio (or used as satellite monitors in more ambitious installs).

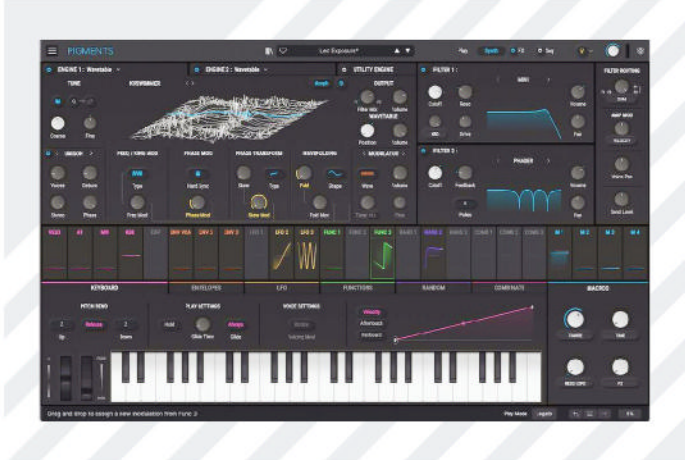
SYNTH PLUGINS

Baby Audio Atoms

$99

Full Review: FM407

Atoms is a characterful and natural-sounding electronic instrument. Come for the otherworldly pads, stay for the surprisingly hard-hitting bass.



Arturia Pigments

$199

Full Review: FM393 (v4)

The update to version 5 isn't the most substantial Pigments update we've seen, but this is still arguably the most capable synth out there.

u-he Diva €179

Diva is a little long in the tooth these days, but it's still one of the most powerful and popular virtual analogue synths going.

Kilohearts Phase Plant $199

Review: FM350 Phase Plant's modular design comes with a slightly high learning curve, but it also brings masses of power and flexibility.

Cherry Audio GX-80 $59

Cherry Audio's CS-80-inspired virtual analogue synth is rich and powerful, capable of huge, analogue-sounding chords and pads.

Tracktion F.'em $179

Review: FM373 F.'em is a hugely powerful digital synthesiser – likely too powerful for some. But for those who brave its depth, there's a mass of potential here.

Cherry Audio Sines $49

Sines is a unique and original synth based around the complex interaction of sinewave oscillators. It's a bargain at under £/$50.

FabFilter Twin 3 £109

An update to a modern classic. Fabfilter Twin 3 is the perfect balance between vintage influence and contemporary design.

Spectrasonics Omnisphere £319

Huge, both in its included sound content and its actual sound. The blend of samples and synthesis results in gorgeous, complex patches.

Sonic Charge Synplant 2 $149

Review: FM403 Already an esoteric classic, this long-awaited update adds the revolutionary Genopatch mode, which uses neural networks to mimic any sound.

oeksound

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